# THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

*WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."*

VOL. CXXXI.—No. 4359 AUGUST 20, 1926

## THE ROYAL FINE ART COMMISSION

THE whole report of the Royal Fine Art Commission is contained in four pages—a somewhat slender document in which to record a year's activities of so august a body, it may be thought. Yet it must be remembered that the very existence of such a body is something new in British affairs. For the last century, at any rate, there has been a prevailing notion that art is not a matter to be taken seriously; at best it is an embellishment of life, amusing enough for those with leisure, and at worst a nuisance interfering with the orderliness and real business of mankind. This notion, coupled with a deep-rooted dislike of bureaucracy and State interference and a love of individual freedom of action, were sufficient to prevent, not only the establishment of such a body, but also the realisation of the benefits which might accrue were such establishment achieved. Gradually, however, there has come about a somewhat changed attitude, and it is at last being realised that beauty in our towns and in our ordinary daily life is a matter of some import, and that art is, after all, woven into the texture of everyday life. At the same time the congestion of modern cities has shown that unrestricted individualism of action is altogether impossible even with regard to such things as the design of buildings, and thus, two years ago, the establishment of the Royal Fine Art Commission was effected.

This having been done it then remained to be seen what use would be made of the body, for it must not be forgotten it is without power to compel matters to be laid before it, and it is without power to enforce the application of its advice or decision. It is to be regretted, we think, that the report is so vague and that it has been considered inopportune to publish particulars, either of the matters which were referred to the Commission or their replies thereto, for the public is now left without any means of ascertaining to what extent the Commission justifies the cost of its upkeep, some seventeen hundred odd pounds, since its appointment in May, 1924. A somewhat analagous body is the Birmingham Advisory Art Committee, which bears more or less the same relationship to the City of Birmingham as does the Fine Arts Commission to the whole country, yet the report of the Birmingham body is a very ample affair containing, among other things, a lengthy list of submissions.

It would appear that one of the matters which has been frequently submitted to the Commission has related to the suitability and siting of public statues. This is a matter that becomes increasingly difficult as available sites become filled—a difficulty which has been augmented since the war, owing to the very natural desire on the part of communities to commemorate their dead, and on the part of branches of the services to commemorate their comrades. As to statues to individuals, the suggestion has been made that no statue should be erected to an individual until a period of fifty years has elapsed, so that posterity may have time to assess his achievements. As, however, the erection of statues is, for the most part, an impulsive manifestation of affection or esteem, were such a regulation to be enforced but few statues would be erected, which might or might not be a good thing. Be that as it may, the question of public statues and monuments is one that the Commission will find increasingly difficult to deal with.

Another difficulty to which reference is made in the report is that of "harmonising the new with the old, and preserving the old while doing justice to the new." Specific examples are cited, such as the proposed extension to Ewan Christian's National Portrait Gallery and to the Natural History Museum. The Commission wisely suggests that no condition should be imposed upon the architect which would compel him to adhere to the style of the original building. Additions to buildings with marked characteristics are certainly among the most difficult problems with which an architect can be faced, and he needs to bring to bear for their solution all his knowledge and skill. In the old days, before our acute historical sense had tramelled us with hesitancy and self-consciousness, these matters were put in hand with less deliberation, and with results which were often successful enough.

Considerable interest attaches to that part of the report which deals with Waterloo Bridge. Whatever criticism may be made concerning the action of the Commissioners, at all events it must be conceded that it has been logical and consistent, and, in this respect, in pleasant contrast to the action and attitude of others. The Commissioners, the report states, were in favour of preserving the bridge, and made representations to the L.C.C. to that effect. In March this year, however, when it was decided to remove the bridge, the Commission was invited to offer its opinion as to the best means of promoting a competition for the erection of a new bridge. "Having opposed the destruction of the old bridge," says the report, "we felt much hesitation in co-operating in the erection of a new one, but when consulted by a public authority of such importance as the London County Council, we felt compelled to give every assistance in our power. We therefore explained that in submitting our views about a new structure we in no way abated our desire that Rennie's bridge should be strengthened and preserved." The Commissioners refrained from suggesting the names of artists or architects, but they did suggest that the competition should be limited to British subjects. There is much to be said both for and against this suggestion, but, for our own part, we have little doubt that, if the necessity does arise—and we still cling to the hope that it will not—the Empire will not be found wanting in the production of skill and talent worthy of the opportunity.

With regard to the Union of Benefices and Disposal of Churches (Metropolis) Measure of 1924, the Commission state that "they are opposed in principle to a measure which provides for the destruction of some twenty national monuments of great historic and architectural value."

While it cannot therefore be said that the Commission has accomplished a great deal, it is clear that its opinion is being sought on matters of importance; yet these are matters about which the public itself is for the most part articulate, for it has shown quite emphatically that it is opposed to the destruction both of Waterloo Bridge and of the City churches. It is, however, in smaller matters that it is less able to speak for itself—such as ugly street furniture, disfiguring advertisements, and the like. The time is still very distant when we can look to the Commission for protection against selfish and aggressive architecture. Might it not soon be in a position, however, to be able to protect our streets from those minor annoyances, the cumulative effects of which are really very great?

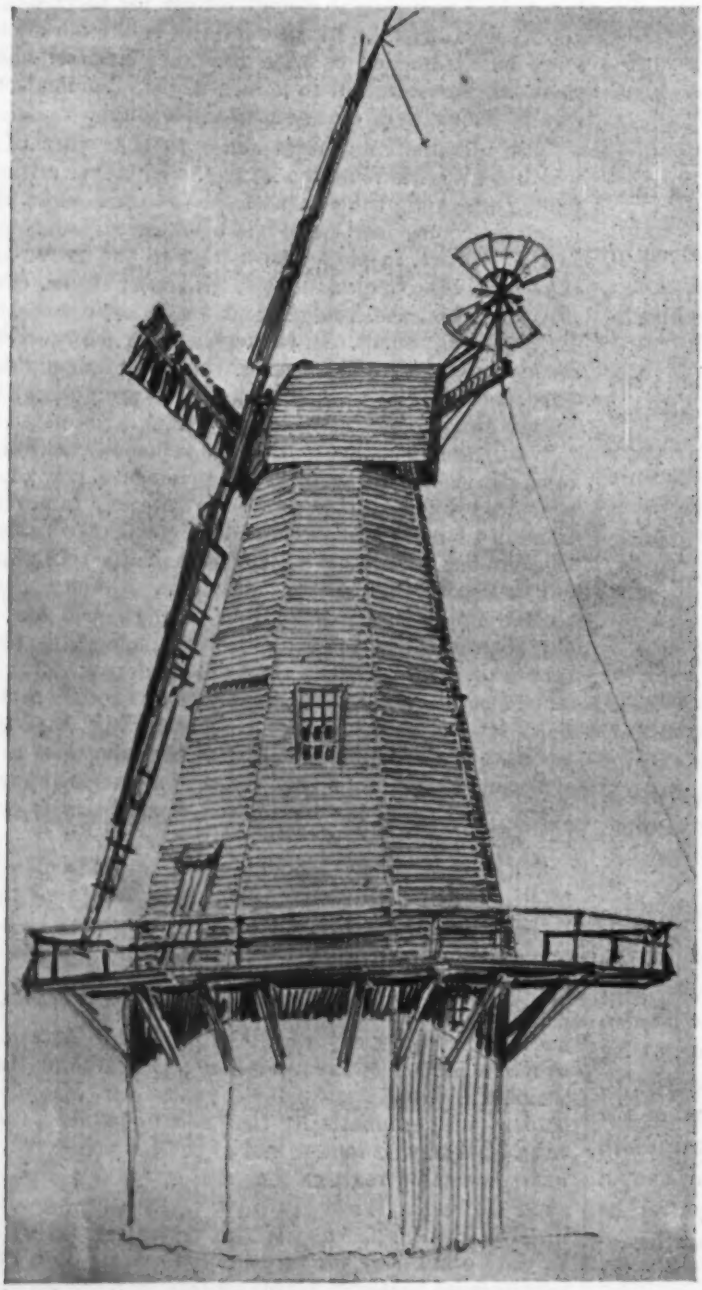
# NOTES

**"Luxury" Building.**

WHAT is luxury building? A protest from a Labour Housing Association against luxury building having precedence over housing works would have some right to consideration if the so-called luxury building meant only added luxury for one class of people. Banks, hotels, and picture-houses all have their useful place in the development of trade and circulation of money. It is even conceivable that the building of a palace produces more benefit for the poorer people than an equal sum spent on cottages. We imagine the Government is not again likely to put a very severe limit on so-called luxury building now that the war is over, and especially if it is a fact that by 1927 or 1928 we shall have overtaken the arrears in cottage building.

**Housing at Bournville.**

IT would be difficult to estimate the good results which come from such action as that of the Bournville Trust. It may be noted that the capital value of the Bournville Village estate is £435,842, that there are now nearly 1,700 houses on the whole estate, and more than 100 in contemplation. It was originally intended by Mr. Cadbury that the land should be sold as an outright freehold, but it was finally decided, in view of the best administration and development of the estate, it would be better to sell the houses and land on leases of 999 years, charging ground rent and inserting covenants in the leases to secure the accomplishment of the purpose of the lessor. There does not appear to have been a large demand for purchase of freeholds, but houses are now sold and land let for building purposes on 99 years' leases. A very careful consideration of finance appears to have guided the Trust, and every encouragement has been given to induce purchase of houses, but evidently the granting of houses on rental with a reasonable prospect of fixity of tenure has appealed to a large number of residents. The Trust appears to attach much importance to the value of Public Utility Societies, the advantages of which are clearly set forth in "Bournville Housing" (price 6d.), a fifth edition of which has just been sent us. The introduction to this pamphlet admits that the keen edge has been taken off the housing difficulty, but claims that we are still a long way from satisfactory housing conditions. Those who are in the habit of travelling in many directions up and down the country cannot fail to be impressed by the great numbers of fairly decent-looking cottages which have been erected since the close of the war, and that very great efforts have been made by various agencies to put better houses within the reach of the poorest people. We still have much terribly bad slum property to deal with, and it was only a few weeks since that we came across an instance of a family with only two bedrooms in which father and mother, boys and girls had to sleep—and this was in an apparently well-ordered little village community, which, we suppose, did not receive much sanitary supervision.



**Windmill at Rye, Sussex.**
From a Pencil Sketch by MR. C. F. W. DENING, F.R.I.B.A.

**Preservation of Old Buildings.**

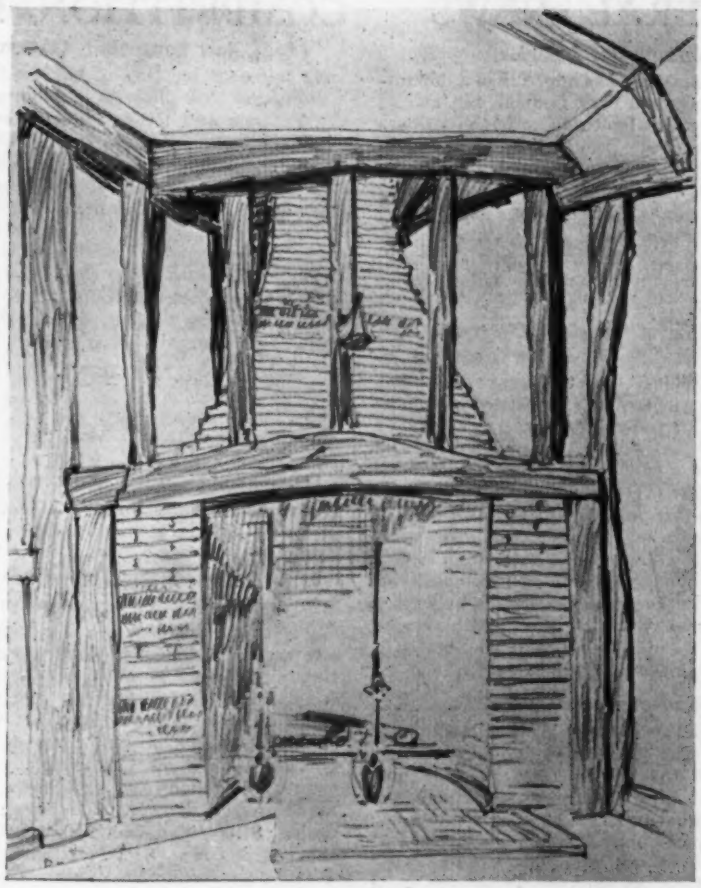
THOUGH there are some well-directed agencies at work for the preservation of ancient and beautiful buildings and historical monuments, we are still outpaced by the forces of indifference or greed. We have certainly rescued many valuable relics of former days, but we are at this very moment confronted by the possible loss of objects which lend the greatest dignity and beauty to London. If there were a fair amount of thought for and appreciation of the beautiful buildings we have inherited from our forefathers, the financial support accorded to the Society for the Protection of Ancient Buildings would show it in a far better income and a larger membership.

**Street Names.**

THE action of the Deptford Borough Council in asking the L.C.C. to make the numbering of all roads continuous and to abolish all subsidiary names such as "terraces and cottages" illustrates a revolt against much that is troublesome and absurd in our habits of street naming. The duplication of names is a constant source of bother. There may, for example, be three or more "Norfolk-streets" in various parts of London, and they may, none of them, be even in the neighbourhood of Norfolk-square or Norfolk-crescent. In the suburbs we find long streets of houses, each occupying a huge frontage and all named with fancy titles, so that a visitor never can know whether the house he is looking for is a hundred yards or a mile off, and has to be constantly making inquiries. At the same time the

American system of numbering immensely long streets removes every romantic association. To know, let us say, that Dr. Johnson had lived at No. 873, in East 564th Street, would rob such an association of all individuality. Let us remedy our more tiresome anomalies, but let us also avoid the substitution of too much mechanical precision.

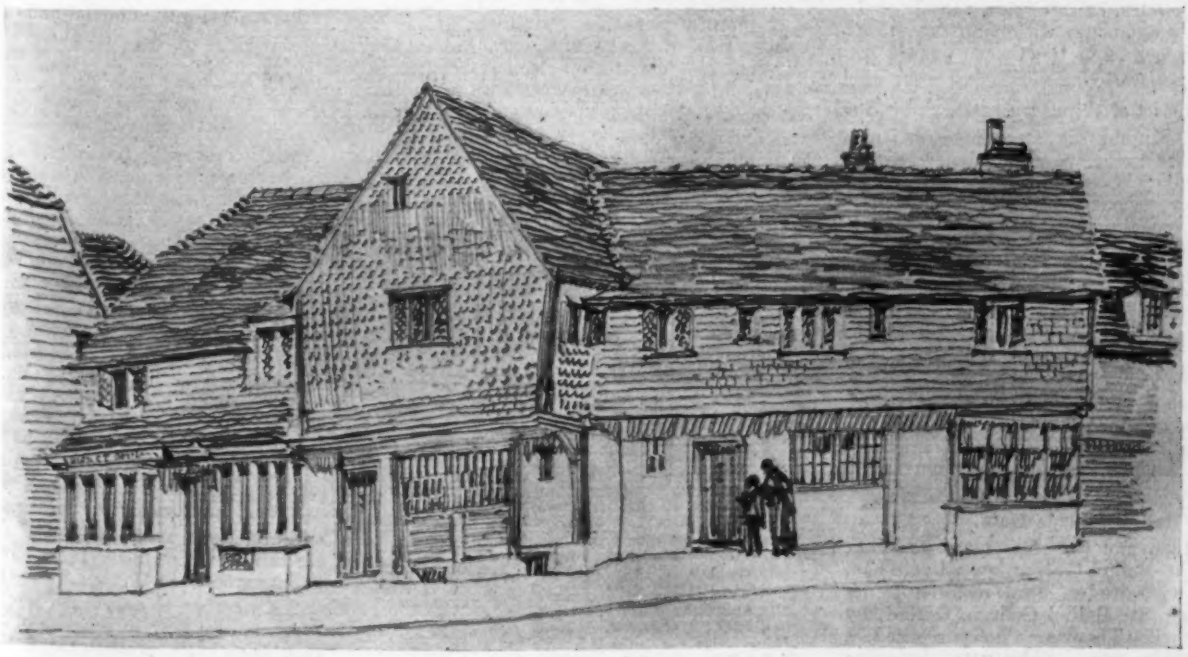
**Public Spaces.** The acquisition for the public of a further 84 acres adjoining Box Hill and 32 acres at Norwood-grove, will add materially to the amenities of these districts. The constant growth of the suburbs of London demands a redoubled effort to acquire as much land as possible for public use. Indeed, a more or less continuous belt of open land in a concentric circle about Greater London is imperatively called for. But even if this dream can materialise many will regret the necessity that apparently compels us to continue enlarging our overgrown cities. An open belt preserved for public enjoyment and safe from the activities of the builder is not the same thing as untouched and toiling agricultural country, with its tillage and forests, and parks cannot give the actual contact with the soil that seems almost necessary if we are to satisfy a primitive human craving. Presumably the day will come when the influx from country to town will cease and, after a period of stagnation, will be succeeded by a mass desertion of the towns for the country. Unfortunately we can, at present, discern no signs of such a tendency.



**Back of Timber Fireplace, Mercery-lane, Canterbury.**

From a Pencil Sketch by Mr. C. F. W. Dening, F.R.I.B.A.

**Theatres.** "An eminent theatrical personality" is reported to have complained of the dearth of theatres in London, attributing it largely to the stringency of County Council regulations against danger from fire, which, he states, have the effect of restricting the building of new theatres to island sites. According to him there are only four sites known in the West End which will comply with the present L.C.C. regulations, and three of these are in Shaftesbury-avenue or the immediate neighbourhood. That there is a demand for more theatre accommodation in London is argued from the high rents alleged to be charged for West-End places of entertainment, and it appears that in New York there are twice as many in proportion to the population as in London. But the remedy should not be sought in relaxing regulations against fire. Present day facilities of transit should make it profitable to build theatres upon other sites than in the restricted area of the "West End."



**Sevenoaks.**

From a Pencil Sketch by Mr. C. F. W. Dening, F.R.I.B.A.

# GENERAL NEWS

### Amenities of Oxford.

In the early autumn it is hoped that a deputation from the Oxford City Council will attend at the Ministry of Health in order to discuss with the officials the proposals for the future development of the city. In addition to the issues referred to in the recent memorandum addressed to the Oxford Corporation by Mr. Chamberlain's department, it is possible that a scheme to enable the University and city to gain control over the higher ground will be considered.

### Exhibition of Industrial Designs.

The Royal Society for the Encouragement of Arts, Manufactures and Commerce are holding an exhibition, in connection with their competition of industrial designs, of a selection of the designs received, in the Upper East Gallery of the Imperial Institute, South Kensington, until August 31, every week-day from 10 a.m. to 5 p.m. The exhibition will be open free of charge. A bureau of information will be established at the Royal Society of Arts, John-street, Adelphi, in connection with the competition, at which will be kept the names and addresses of exhibitors who desire to obtain employment as designers. These lists will be at the service of manufacturers in search of designers.

### Protection of Ancient Remains.

The Commissioners of Works have under consideration the question of providing better protection for ancient remains, such as barrows, tumuli, and earthworks, which are threatened from various causes. In the South of England, particularly on the great plain of Wiltshire and Dorset, remains of this kind have suffered in recent years by the land being brought under the plough. One of the worst offenders against the archæological remains on Salisbury Plain, it was stated at the annual meeting of the Wilts Archæological Society, is the Army, and it was alleged that not long ago the whole interior of a long barrow, except one end, had been cut out to make a rifle range. The fault does not lie with the War Office, who have promised to protect all the ancient monuments and remains within the area which they occupy. Army Orders have been issued to this effect, and the larger barrows are generally safe from injury; but the smaller earthworks, which cannot be so readily identified except by the expert, do not stand the same chance of being preserved. The Commissioners of Works have already scheduled a great number of ancient monuments in Wiltshire and Dorsetshire, including earth circles, cairn circles, tumuli, and barrows; but monuments within an area that is occupied on behalf of the Crown cannot be dealt with in this way.

### Architect of Windsor Castle.

Mr. R. B. Robertson, resident architect of Windsor Castle since 1912, has retired under the Civil Service age limit. During his tenure of office he has supervised much interesting work, including the restoration of part of the interior of the Round Tower to its original form for use as an archive room. Mr. Robertson has been personally thanked for his services by the King and Queen, who have presented him with signed portraits of themselves. Mr. Robertson, who will reside in future at Datchet, will continue to act as chapter surveyor to the Dean and Canons of St. George's Chapel. He will be succeeded at the Office of Works, Windsor Castle, by Mr. James Lamb, who has been transferred from Holyrood.

### Balliol College Gate.

Built in 1288 and for 500 years guarding the entrance to Balliol College, an old gate has, after many vicissitudes, been restored to its rightful place at Balliol College, Oxford, by Mr. J. Rochelle Thomas, who purchased it eighteen months ago. The gate, weighing nearly two tons, was in a remarkable state of preservation, and under its many coats of paint the timber was in sound condition.

# COMPETITION NEWS

### New Town Hall, Clacton.

At a recent meeting of the Clacton Council a discussion took place on a recommendation of the Finance and General Purposes Committee that the suggestion of the Ministry of Health should be followed that, on account of economy, instead of throwing open to competition the designs for the new Town Hall at Clacton, the President of the R.I.B.A. should be asked to nominate a member to design the building. An amendment that the designs should be the subject of open competition so that local architects could enter was lost and the recommendation of the committee was carried.

### Manchester.

The Corporation of the City of Manchester invite architects of British nationality to submit competitive designs in a preliminary competition for the Town Hall extension and public library building. Applications for the conditions of the competition should be made to Mr. P. M. Heath, town clerk, Town Hall, Manchester, accompanied by one guinea, returnable upon receipt of a bona-fide design.

### Biscayne Boulevard Competition, Miami, Florida.

We have received the programme of two competitions which are being promoted by the Biscayne Boulevard Association, Miami, Florida, as follows: (1) Street Traffic Signal Tower and traffic signal standard designs and street lighting standard designs, including street name signs; and (2) Filling Station Designs.

In competition No. 1, ten awards will be made to the winners, as follows: First prize design, $1,000.00; second prize design, $300.00; third prize design, $100.00; fourth prize design, $200.00; and six mentions, each, $75.00.

In competition No. 2, ten awards will be made, as follows: First prize design, $750.00; second prize design, $400.00; third prize design, $250.00; fourth prize design, $150.00; and six mentions, each $75.00.

All architects and designers are invited to participate in these competitions without registration or entrance fee. The Association has selected Mr. Eliot Cross, of Cross & Cross, architects, New York; Mr. Elmer C. Jenson (of Mundie & Jensen), architects, Chicago; and Mr. James H. Gilman, City Commissioner and President of the Bank of Bay Biscayne, Miami, to act as jurors; and Mr. Dwight James Baum, architect, New York, and Mr. Harry F. Cunningham, architect, St. Petersburg, Florida, as alternates for these competitions. Messrs. Bennett, Parsons & Frost, consulting architects, 80, East Jackson Boulevard, Chicago, are professional advisers for the competitions.

Designs are to be sent in to Mr. Harry T. Frost, care of Biscayne Boulevard Association, Columbus Hotel, Biscayne Boulevard, Miami, Florida, and delivered not later than 6 p.m., October 1, 1926. The jury will meet on October 6, and the awards will be made on October 10 at Miami. A copy of the programme can be seen at our office, and additional copies may be obtained from Mr. Harry T. Frost, care of Biscayne Boulevard Association, Columbus Hotel, Biscayne Boulevard, Miami, Florida.

### COMPETITIONS OPEN.

| | Particulars published in | Sending-in date. |
|---|---|---|
| Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors. | "Builder." July 23 .. | Jan. 25 1927 |
| Cenotaph, Liverpool. To be erected outside St. George's Hall. Premiums: 1st, £200; 2nd, £150; 3rd, £100; 4th, £50. Author of selected design will be paid commission of 500 guineas, to include premium. Professor C. H. Reilly, assessor. Second premium will only be awarded to ex-Service man | June 11 .. | Sept. 30 |
| New Offices for Scottish Legal Life Assurance Society, Bothwell-street, Glasgow. Mr. John Keppie, A.R.S.A., F.R.I.B.A., assessor. Apply Mr. William Watson, Secretary, 84, Wilson-street, Glasgow, before August 21. Deposit £1 1s. | Aug. 6 .. | Oct. 30 |
| Incorporated Architects in Scotland: (1) Rowand Anderson Medal and £100: City Art Gallery and Museum; (2) Rutland Prize (£50) for Study of Materials and Construction; (3) Prize (£10 to £15) for 3rd year Students in Scotland; (4) Maintenance Scholarship, £50 per annum for 3 years. Apply Secretary of the Incorporation, 15, Rutland-square, Edinburgh | Nov. 6 .. | — |
| Academy, Perth. Open to architects practising in Scotland. Premiums: £100 and £50. Mr. James D. Cairns, assessor. Apply Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s. | July 23 .. | Jan 3, 1927 |

# OBITUARY

### Major T. J. Moss-Flower.

We regret to record the death of Major T. J. Moss-Flower, who, born in 1864, set up in private practice as a civil and consulting engineer in Bristol in 1887. From 1891 to 1899 he was Engineer and Surveyor to the Portishead U.D.C., and during that time, in addition to many other public works, carried out an entirely new sewerage scheme for the whole of the district of Portishead. On leaving the service of the Portishead Council he continued, except for the period of the war, when he was on active service, his private practice as a civil and consulting engineer in Bristol and London till the day of his death. From 1900 onwards he was largely engaged in the carrying out of public works for various Corporations, consisting chiefly of drainage and water-supply schemes. During this period he carried out, amongst other works, Hullavington water supply; Allington water supply; the main drainage of Portishead, Somerset; the main drainage of Hartley Wintney, Hants; the main drainage of Rye Harbour, Sussex; the main drainage of Tenby, Pembrokeshire; the main drainage of Fleet, Hants; the main drainage of Wootton Bassett, Wilts; the main drainage of Pencoed and Coychurch Higher, Glamorgan; main drainage of Havant, Hants; and main drainage of Victoria, Brazil.

The deceased took a very keen and enthusiastic interest in the work of various engineering associations, and amongst other qualifications and distinctions held by him were those of Associate Member of the Institution of Civil Engineers, Member of the Institution of Municipal and County Engineers, Fellow of the Royal Sanitary Institute, Past-President of the Institution of Sanitary Engineers, Fellow and Member of the Council and of the Board of Examiners of the Institution of Sanitary Engineers, Past-President of the Bristol Association of Engineers, etc.

### William Arthur Tebbs.

"LANCASHIRE" writes: "As one who worked alongside of him when he was manager in a well-known North Country office, some 16 years ago, I feel that some record of appreciation is due to William Arthur Tebbs on the occasion of his death at Halifax last week. Born at West Bromwich, he was, I believe, articled to Mr. Nichol, of Birmingham, where a generation or so ago he was recognised as an architect of promise, associating, by reason of his ability, with men whose names are well known in the architectural profession to-day. A pen-and-ink draughtsman of considerable skill, he exhibited at the R.A., but Tebbs must also be reckoned as a capable and versatile designer, one well versed in the practical side of the profession and apt in tackling the diversity of problems peculiar to those engaged in the practise of an all-round Northumbrian office to which he migrated twenty years ago.

"A number of assistants, like myself, many of whom are now in practice of their own, can look back with pleasure at a period of their architectural experience spent in a happy office atmosphere under ideal conditions in harness with a kindly and instructive senior.

R.A. Exhibition, 1926.

"England."

Mr. Gilbert Bayes, Sculptor.

# THE ANNUAL CONGRESS OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION

## VISIT TO CHESTER AND NORTH WALES.

BY REV. P. H. DITCHFIELD, M.A., F.S.A. Hon. A.R.I.B.A.

THIS venerable Society, which was founded in 1843, held its eighty-third annual Congress this year in the ancient city of Chester, which is always an attractive field for archæological investigation. It is also the gateway to the West, and the comparatively modern invention of the motor-coach enabled the members to extend their travels into Northern Wales. Journeys of sixty or seventy miles opened out a wide range of country, and they were enabled to travel through the most delightful scenery of any part of the British Isles. The Vale of Clwyd and the Dee Valley afforded most beautiful views, and the high-towering mountains of North Wales presented a background of great magnificence. To the student of architecture special interest was afforded in comparing the Welsh and Cheshire peculiarities of detail. The Cheshire style was noticeable in the great width of the aisle windows of the churches visited, while the Welsh showed the lavish decoration of the interiors, the breadth of the mouldings and the elaborate roofs. The towers of the churches on the borders of Wales are remarkable and are somewhat similar to those well-known examples in Somerset. The double churches of the Vale of Clwyd present features of unusual interest.

The archæologist as well as the architect finds much that delights his soul in the district covered by the Congress during this memorable week. There is Chester itself, with its extraordinary wealth of Roman antiquities, its noble cathedral, its half-timbered houses (much restored), its famous "Rows," its castle with its newly-renovated chapel in Cæsar's Tower, and its churches, and the complete circuit of its walls. In the district traversed there are ancient crosses, such as Sandbach, old Halls, like Little Morton and Tabley, the ruins of Abbeys, the Cathedral of St. Asaph and much else of absorbing interest.

The Congress met under the presidency of Mr. Charles E. Keyser, M.A., F.S.A., of Aldermaston Court, Reading, who has occupied the position of President for twenty-one years. About fifty members of the Association were present, including the Rev. P. H. Ditchfield (Editor), Mr. E. Reginald Taylor, F.S.A. (Hon. Secretary), and Mr. Francis Weston, F.S.A. (Hon. Treasurer).

A cordial welcome was given to the Association by the local authorities. The Mayor and Mayoress held a Reception in the Town Hall. The Lord Bishop of the Diocese and the Dean of the Cathedral were amongst the Patrons of the Congress, and also Lord Mostyn, F.S.A., Sir John Frost, Mrs. Paget, Major Cuthbert Leicester Warren and other gentlemen. The members of the Chester Archæological Society were indefatigable in their exertions in making the Congress a success. Unfortunately, the local secretary, Mr. P. H. Lawson, F.S.A., had to undergo an operation and was prevented from attending the meetings and giving the visitors the benefit of his extensive knowledge of Chester and its neighbourhood. We were favoured by the presence of Mr. E. W. Lovegrove, M.A., F.S.A., on several occasions, who is an expert on the abbeys of Cheshire and North Wales. and of Mr. Frank Simpson, F.S.A., who has an intimate knowledge of every corner of the city. The Archdeacon of Chester, the Ven. W. L. Paige Cox, B.D., Canon Thomas, F.S.A., the Deans of Chester and St. Asaph, Professor Newstead, F.R.S., Mr. F. H. Crossley, F.R.I.B.A., Professor Lloyd, Mr. H. Harold Hurst, F.S.A., and many other gentlemen of the Shire, including the incumbents of the churches visited, contributed much to the success of the Congress.

In spite of the Coal Strike, most of the members assembled at Euston Station on Monday, June 28, and accomplished the journey in safety to Chester, and after luncheon proceeded to walk round the walls of the city under the guidance of Mr. F. Simpson. In no other town in the Kingdom is it possible to make a complete circuit of the walls, which involves a walk of nearly two miles. This walk offers a pleasing and varying prospect not only of the different features of interest in the city, but also of the surrounding country and of the distant Welsh hills. The walls also furnish a never-ending subject for discussion as to their origin and history, upon which fresh light is continually being thrown by discoveries that are made. The main point in dispute has been as to whether they can claim any connection with Roman builders; and the question seems to have been settled in the affirmative on various grounds. While Roman stones have been found in portions of the north wall, on the eastern side some masonry is to be seen which, from its character, may safely be ascribed to that early date; and not long ago some excavations unearthed the foundations of a Roman wall just a few feet in front of the present one. The plinth thus discovered indicates that the place is the south-eastern angle of the Roman wall, and proves that originally in Roman times the compass of the walls was considerably less than it is now. It has been suggested that at a later date the Romans enlarged the boundaries of the town, which at first was a camp or fortress, and that subsequently Ethelfreda, in A.D. 907, when she repaired the city, which had lain waste, still further enlarged its borders on the south side. On the west there are undoubted traces of Roman work, and here the walls (or more correctly the Quay), in early days, must have been washed by the tidal waters of the Dee, and vessels must have been able to come up close to them and moor at their side. The Roman stones discovered in the north wall, when it was under repair, were many of them inscribed and sepulchral; and so some authorities concluded that they could not have been placed there by Roman builders. It was shown, however, that a similar use of a sepulchral monument occurred in a bastion of the Roman wall of London, and that none of these stones were found in the upper part of the wall, but in the lower unmortared base, which was evidently Roman. The conclusion arrived at was that the Romans extended their wall at an early period, and in so doing had enclosed or made use of their cemetery.

The upper part is, no doubt, Edwardian, though alterations and repairs at different times have somewhat altered their character. This is specially to be noted in the removal, at the close of the eighteenth century, of the old gateways. These, as we can see from old prints, were striking and picturesque; but they must have been inconvenient for modern traffic. In York the gateways or bars, as they are called, have been retained, and opening arches at their sides cut through the walls for the passage of carriages and carts, leaving the Bars untouched. It is a sad pity that the same policy was not adopted at Chester.

There are various points of interest on the walls. In the North Gate was situate the common gaol, and outside is the Hospital of St. John, where, in later times, the prisoners attended divine service. Proceeding westward, we find Morgan's Mount, where an important battery was planted during the famous siege of the city during the Parliamentary Wars. Next we see Pemberton's Parlour, so called from the fact that John Pemberton in 1700 established a rope walk here within the walls, and from this spot no doubt the worthy rope-maker watched his work-people. It is also called "Dille's Tower," or "the Goblin's Tower," suggesting a ghost story. Bonewaldesthorne's Tower stands at the north-west angle of the wall and the New or Water Tower. The view of the Roodeye calls to mind the earliest race-course in the country, founded by M. Lester in 1609, when he was mayor. The name Roodeye shows that it was at one time surrounded by water. And so we passed on to the Phœnix Tower or King Charles' Tower, whence the monarch with sad heart saw the defeat of his forces on Rowton Moor.

After this long perambulation, the company adjourned to the Crypt Café for light refreshments. This is a most interesting survival of mediæval Chester, and was much admired. Mr. Frank Simpson described the history of the building.

The pilgrims then visited the wonderful

### CHURCH OF ST. JOHN THE BAPTIST,

which was described by Mr. Lovegrove. The vicar, the Rev. Canon Child, welcomed the company to the church. It had the honour of being at one time the Cathedral Church of a large diocese, and had an early foundation as a Collegiate Church. Legend gives the date as A.D. 689. At the time of the Norman Conquest there was a church here served by a "matricularius" and six canons. In 1075, Peter, Bishop of Lichfield, transferred his See to Chester, and, as we have said, St. John's became the Cathedral Church. The existing building is but a fragment of the church then set out. Four bays of the nave, the crossing, one bay of the choir, and a part of each transept remain intact, and ruins or foundations of the destroyed parts may still be seen. The splendid piers and arches of the crossing are remarkably fine. Chester did not long enjoy the dignity of being a cathedral city at that period and the See was removed to Coventry, and after this removal the nave was built in small sections, and is a magnificent example of the Romanesque of south-western England. Later in the twelfth century the triforium was erected and the clerestory was added early in the thirteenth century. In the old chapter-house are preserved some fragments of crosses of a remarkable character. They are of beautiful design and are fully described by Bishop Brown in vol. xlix of the *British Archæological Journal*. He assigns them to the pre-Norman period, and designates them as British and prior to 903 A.D., when the Brêts were driven out of this part of England. The fragments are apparently of two beautiful sculptured shafts, and are as fine in their work as any of the pre-Norman monuments left in England.

### RECEPTION IN THE TOWN HALL.

In the evening, the Mayor of Chester (Dr. John Welsh) and the Mayoress (Mrs. Welsh) held a reception in the Town Hall. There was an exhibition of the City plate and regalia, the City Charters and maps, engravings, etching, &c., of old Chester. Professor Newstead, F.R.S., gave an exposition of recent and other Roman finds in the city. An opportunity was taken of presenting the gift of a silver inkstand to Mr. Charles E. Keyser by the members to mark the twenty-first year of his presidency of the Association, and as a token of their appreciation of the services he had rendered and of his constant kindness and goodwill. The presentation was made by Mr. Cann Hughes, of Lancaster, V.-P.

### TUESDAY, JUNE 29th.

On this day a prolonged tour was made into the beautiful region of North Wales, visiting many interesting churches under the guidance of Mr. E. W. Lovegrove. The first stopping-place was

### GRESFORD CHURCH,

a remarkably fine building, which was described by Mr. F. H. Crossley, F.S.A., F.R.I.B.A. The present church mainly dates from the end of the fifteenth century, but there are traces of earlier work, notably the thirteenth century outside buttress supporting the tower. There was a rebuilding in the fourteenth century, and of this the west wall of the south aisle remains, and the crypt. Subsequently, in 1490, the church was again rebuilt, and extended eastward so as to arrange for a processional path, the vestry being placed in the unusual position

beneath the altar. In post-Reformation times the altar was raised and some archways filled in. The upper portion of the fine tower was the last work of the rebuilding. The church is remarkable for its well-preserved screens and stalls, their fittings having been erected about 1500 A.D. During the reign of Henry VII Welsh woodwork attained a high level of excellence, and of this Gresford affords a good example. The screen belongs to the intermediate type belonging to the border variety of woodwork, the style being mainly Welsh. There are some good misericords. We noticed one representing the artfulness of the fox trying to catch birds, which occurs in one of the existing bestiaries. There are north and south chantreys, the former dedicated to the Blessed Virgin, the latter to St. Catherine. The small crypt to which reference has been made contained relics, and there was a miracle-working statue which attracted many pilgrims in pre-Reformation times, who made liberal offerings. The east window was given by Lord Derby in 1500, and the north window is in memory of John Meddock Hall, and is dated 1498. The Tower is of fine design with great richness of detail in the upper stages, and is quite as remarkable as the beautiful Somerset examples belonging to the type of the Border tower which adorns the borderland between Wales and England. The church contains some old fifteenth-century glass. Gresford is in the colliery district of North Wales, and silence reigned over the pits during this sadly prolonged strike, and the colliers were idling about, longing to return to work. As we drove along we admired the "black-and-white" cottages and farmhouses, characteristic of North Wales and Cheshire. The date on one of these was 1654. We passed the entrance to Acton Park, the home of the infamous Judge Jeffries, of whom Welshmen are by no means proud, although some one has recently tried to "whitewash" his character. We saw a preaching cross let into a wall. Twenty minutes' drive brought us to

### WREXHAM CHURCH.

where we were met by the vicar, and again Mr. Crossley described the building. It is famous for its tower, which is undoubtedly one of the finest in the Kingdom. The original church was destroyed by the fall of the tower and rebuilt in 1330. Fate has dealt hardly with the structure, as again it was destroyed by a disastrous fire, which wiped out both the town and church. It was rebuilt in 1462. The church originally was what is called a "through church," so common in Northern Wales, there being no chancel arch. It was lengthened, probably early in the sixteenth century, by the addition of a semi-octagonal chancel, the frame of the older East window serving as a chancel arch. The work was very roughly executed, and fragments of the tracery of the destroyed window still remain. The roof is fine and of the hammer-beam type, the corbels that support it being those of the original roof. There is a fine sixteenth-century lectern, which cost only £6. It is of brass and in the form of an eagle. The church has a beautiful ironwork screen and handsome fourteenth-century sedilia. The screen belongs to the Lancashire, Cheshire and Derbyshire type. The noble tower belongs to the sixteenth century, and is a triumph of architectural skill. It is adorned with 29 statues. It is interesting to note that Bishop Heber's well-known hymn,

"From Greenland's icy mountains,
To India's coral strand,"

was first sung in this church. On the font are carved the instruments of the Passion. The church has some splendid pre-Reformation plate, including a gold chalice and patten. There are some fine tombs, including that of Hugo Bellot, 1590, Doctor of Theology and Bishop of Chester. The fragments of a mural painting representing the Doom remain.

Wrexham town seems large and flourishing. The Town Hall is not a beautiful building, and is early Georgian of the date 1730. After leaving Wrexham we passed reluctantly through Ruabon, where there is a decorated church of some interest, which lack of time prevented us from visiting. We pass through the magnificent scenery of the Valley of the Dee, and notice the wonderful Pont Cysylltan, which carries the canal across the valley. We cut through the celebrated Offa's Dyke, and on the hill see the ruins of Castell Dinas Bran, once a stronghold of the Princes of Powys. We pass through Llangollen, whither we are to return for the important ceremony of luncheon, and did not see the famous Ladies or the house where they dwelt, and then, as 12 o'clock struck, we, as pilgrims, pull the bell of the interesting abbey

### VALLE CRUCIS.

It would be difficult to imagine a more lovely spot or a more picturesque ruin. During the day we were joined by Professor J. E. Lloyd, the Welsh antiquary, who described the place which the abbey held in North Wales. There were two areas in North Wales governed by the Powys families. Indeed, there were two dynasties, the North Powys and the South Powys. About the year 1200 a Prince of the former family favoured a certain religious movement among the Welsh princes for the

**Sculpture, Wrexham Church Tower.**

welcoming of the Cistercian Order into Wales. The first house was founded at Whitland about 1160, which was the mother-house, and between that date and the beginning of the thirteenth century other houses were built. This Valle Crucis was the work of a prince of Northern Powys family. It was entirely a Welsh foundation, and the abbots and monks were all Welshmen—a real Welsh work.

Mr. Lovegrove followed with a detailed account of the abbey and of the lives of the Cistercian monks. It was founded by Madoc ap Griffith Maelor, Prince of Powys, and colonised by monks from Strata Marcella, who came here on January 27, 1201. A great part of the church and the whole of the buildings on the eastern side are standing, but the southern and western ranges have disappeared. The church was built, as usual, from east to west, and the work seems to have been carried on steadily from the date of its foundation until its completion about 1280. The other buildings which remain are of the fourteenth century.

Some of us visited the Pillar of Eliseg, one of the most remarkable crosses in Wales. The broken shaft, 6½ ft. high, stands upon what is supposed to be a sepulchral mound. According to the original inscription, now effaced, this cross was erected early in the ninth century by Concenn-ap-Cadell-ap-Brochmael in memory of his great-grandfather Eliseg, Lord of Powys, who fought in the great battle at Bangor Iscoed in 607, the last great victory of Saxon heathendom over British Christianity, when 1,200 monks were slain, because the victor held that if they were praying against him they were fighting against him. The present inscription, dating from 1779, records its mutilation during the Civil War.

The company then returned to

### LLANGOLLEN

and partook of lunch at the Royal Hotel. Ruskin, in his early days, pronounced the town to be "the most beautiful and delightful in Wales or anywhere else." Since then it has been somewhat spoiled by extensive rebuilding in glazed red brick. Borrow frequented this neighbourhood, described it in "Wild Wales," and praised Llangollen ale. We crossed the bridge that spans the Dee, on the southern end of which "the Royal" stands. This bridge was long reckoned to be one of "the Seven Wonders of Wales," and was built in the fourteenth century by John Trevor, Bishop of St. Asaph. We climbed the steep hill leading to the church, dedicated to St. Collen. It is mainly fifteenth-century work, much restored, and has fine hammer-beam roofs in the nave and north aisle. These do not seem to have been made for their present position and may have been brought here from Valle Crucis at the Dissolution. Time prevented a visit to the tomb of Mary Carryl, the faithful servant of "the Ladies of Llangollen," who erected it in 1809, and who themselves sleep beneath the monument.

Leaving Llangollen, we drove along the well-known Horshoe Pass, whence magnificent views were obtained over the Dee Valley, and northways, down the Vale of Clwyd. We stopped to explore the ruins of the castle of Tomen-y-Rhodwydd, a fine example of the Motte and Bailey type of the twelfth century. Professor Lloyd described it. He said it may be fairly certainly identified with the Castle in Tal built by Owen Gwynedd in 1149 near the boundary of his realm of Gwynedd, where it might dominate the plain of Powys. Its power was short-lived, for in 1157 Henry II invaded Wales and the castle was destroyed by Torworth the Red of Powys. The construction is all of one period, and after its fall there is no reference to a castle here till the site was identified by Dr. Powel in the reign of Elizabeth. There are no signs of masonry, and the motte was doubtless defended by a fortalice of timber, with the bailey below on the south side. The fosse is deep and the situation strong.

Continuing our journey, we passed down the beautiful Nant-y-Garth Pass into the Vale of Clwyd, "the Garden of Wales," and soon arrived at the church of

### LLANFAIR DYFFRYN CLWYD.

Mr. Lovegrove stated that it was a typical example of the type of Vale church. It has a double aisle. The work is entirely Welsh of the fifteenth century, with a tower of the sixteenth. The plan was framed after the model of Ruthin, and it was a collegiate church. The tower was used for collegiate purposes, the nave by the parishioners. As usual in these Welsh churches, there is no chancel arch. It has been already noticed that the Welsh woodwork of the fifteenth century is remarkable for its excellence, and here the screen and roof are splendid examples of the skill of these Welsh carvers. The church is also rich in old stained glass.

A short drive conveyed us to

### RUTHIN,

a very interesting old town. The town can boast of a castle which has made history. It was built by Edward I., and in the Charter Rolls of that monarch it is recorded that he granted the fortress to Reginald de Grey, Justiciar of Chester, who assumed the title of Lord Grey de Ruthyn. Through his influence a charter of incorporation was granted to the town by the King, but the native Welsh were excluded from

the privileges, an exclusion which was not repealed until the reign of Henry VII. That "stormy petrel," Owen Glendower, in 1400 began his last and fiercest struggle for Welsh independence by sacking and burning the town and seizing its lord. After this Ruthin declined rapidly. During the Civil War Charles I marched through the town in 1645, and in the following year the castle surrendered to the Parliament and was demolished.

ST. PETER'S CHURCH, RUTHIN.

Mr. Lovegrove said that the church was of great interest, both as regards its fabric and constitution. There was an earlier church before Reginald de Grey received the grant of the fortress, and this was a chapel of ease to the mother-church of Llanrhydd. The second Lord Grey of Ruthin decided to build the present church in 1310. He determined that it should be a collegiate church, and also for the use of the parish. The Inspeximus, or confirmatory charter, dated 1314, still exists. The head was variously styled Prior, Provost, Rector, or Warden, and this last title still exists. The parish priest is not called vicar or rector, but warden. Besides the warden there were six priests who took part in the long choral services, enjoyed much liberty, and lived together in a house which still exists, containing parlour, kitchen, and chamber for the priests. The collegiate church extended to the east of the present building, and in documents of the Reformation period it was styled the Lady Chapel. The tower separated the two churches. The choir, or collegiate church, has been destroyed, but a piscina remains. The south aisle was added in the 18th century. The beautifully carved roof of the original nave, or north aisle, was presented by Henry VII when he bought the lordship of the manor from Lord Grey de Ruthin in the early part of the 16th century. It is of black oak divided into 500 small panels bearing pious mottoes or heraldic devices. At the dissolution of monasteries the property of the collegiate church was confiscated in 1547 and the building demolished in 1663, the material being used in building the Town Hall.

For some time after the dissolution the church remained idle, and then a great benefactor arose in the person of Gabriel Goodman, D.D., son of a burgess and mercer of Ruthin. He went to Cambridge in 1542, where he made the acquaintance of Lord Burghley, who proved a good friend. He was appointed Dean of Westminster, held that office for 40 years, and was a friend of Queen Elizabeth. He was a good benefactor to Wales, and at that time the Welsh were very popular in London and held many high offices. In 1574 he founded a school at Ruthin, bought back the old endowments of the college, refounded the church, and established Christ's Hospital. Dean Goodman was a man of great learning, and assisted in preparing the Bishops' Bible. The translation of the first epistle to the Corinthians was wholly his work, and he helped greatly in translating the Scriptures into Welsh.

By the kindness of the Warden we were permitted to see his residence, which was formerly the abode of the Canons of the Collegiate church, and saw the old buildings of Dean Goodman's school. We then drove to

RUTHIN GRAMMAR SCHOOL,

the modern buildings of the aforesaid school, of which our guide, Mr. Lovegrove, is the headmaster. It has produced many distinguished men, including Archbishop Williams, Lloyd Kenyon (Lord Chief Justice), Speaker Sir John Trevor, and many others. By the permission of the Mayor the interesting plate of the borough was exhibited in the school pavilion. Mr. and Mrs. Lovegrove entertained the party to tea on the tennis lawn, and a cordial vote of thanks was proposed by the President to our kind host and hostess and to the Mayor and Mayoress for their reception of the Association.

St. Peter's-square, in the centre of the town, has some interesting buildings, though marred by a modern unsightly clock-tower and fountain. The Post Office was being re-roofed, and occupies the site of an old nunnery, and the site of the priory of White Friars was formerly on the north-west side of the square.

A return was then made to Chester, and after dinner a very interesting lecture was delivered in the Grosvenor Museum by Mr. F. H. Crossley, F.S.A., F.R.I.B.A., on "The Timbered Houses of Cheshire," illustrated by a fine series of lantern slides.

*(To be continued.)*

**Valle Crucis Abbey: Dormitory Door.**

# CORRESPONDENCE

*[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]*

### The R.I.B.A. and Other Societies.

SIR,—One reads with some interest the statements in the letter of Mr. E. Guy Dawber, published in your issue of the 13th inst., but, remembering, as many will, the split in the ranks of the R.I.B.A. which led to the formation of the Society of Architects, it must be borne in mind that the same arguments as are now being advanced against the Incorporated Association of Architects and Surveyors were then put forward. On that occasion it was stated by the R.I.B.A. that the Society of Architects would last but a year or so, that it was useless and superfluous, and other adverse comments were passed. Obviously this forecast was inaccurate.

I note that in the fourth paragraph of his letter Mr. Dawber says that "no Registration Bill which in any way threatens the interests of the unattached architects who are in *bona-fide* practice could possibly become law." It would, however, be interesting to know what body other than my Association would safeguard the interests of the "unattached" qualified practitioners and their assistants. Incidentally, it is noticed that the Birmingham Architectural Association, which is allied to the R.I.B.A., is advertising periodically in a local newspaper (not a professional organ) that the Registration Bill about to be presented to Parliament will protect even unqualified practitioners, provided they belong to the R.I.B.A. or any society allied with that body. One is led to presume from this announcement that the mandarins who are promoting the Bill have admitted unqualified practitioners to their august bodies, and that such persons will be "registered" with the "hall-mark" of the R.I.B.A. and its allies.

On the other hand, it has always been the policy of my Association to admit as members only *bona-fide* practitioners and their assistants, and to oppose the registration of those not possessing adequate technical knowledge, as opposed to the competency of individuals to pass an examination purely academic necessitating what is commonly termed "cramming." That the system of examination adopted by some professional bodies tends to rapid, superficial, and evanescent acquisition of knowledge is an admittedly serious defect which this Association hopes to remedy by inaugurating a policy of graduated tests based on a progressive and practical syllabus, which students will be able to assimilate thoroughly while serving their pupilage.

While well-known institutions have been of assistance to the respective sections of professional men to which they addressed themselves, it was felt that architects, surveyors, and quantity surveyors, whether in public or private practice, would be benefited by the formation of a joint association.

The science of modern building construction is now developing rapidly, and its ramifications are becoming so numerous and intricate as to necessitate the closest co-operation between the various technicians involved. It is one of the aims of my Association to bring these together, not only to promote the growth of architectural art and the development of building science, but to help its members to solve the many problems with which they may be confronted in their practice.

The increasing membership recruited, not only amongst unattached professional men, but also from the ranks of influential members of the older institutions, tends to show that this Association is fulfilling a useful object, even in the first year of its existence. Further, this Association alone possesses the advantage of architects, surveyors, quantity surveyors, and assessors meeting round a common council table to discuss the various problems from all angles, thereby moulding a policy for the common good of the public they serve.

W. FORBES CAMPBELL,
*President Incorporated Association of Architects and Surveyors.*

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### The Late Norman Shaw.

SIR,—A friend of mine who is vicar of a church erected from the designs of the late Norman Shaw wishes to obtain some information as to the personality of the man. I have the two volumes of *Architecture*—a monthly magazine published about thirty years ago—which give a few interesting details, but the articles, naturally, deal principally with his work.

He was not a member of the R.I.B.A., but it has occurred to me that there may have been articles in *The Builder* similar to the very interesting "Philip Webb" series which you published last year. I cannot find anything of the kind in my back numbers, and shall be obliged if you, or one of your readers, are able to give me any information on the subject or suggest where I should be likely to obtain it.

L. R. F.

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### Clearing Away Slums.

SIR,—We all agree that it is very desirable that many of the slum quarters of London should be cleared, but very few think of the hardships involved. Freeholders of the property scheduled get the value of sites only—nothing for the buildings—while leaseholders get nothing at all.

The officials of the County Council are very considerate, but, bound by Section 46 of the Housing Act, they can do nothing. How did such a clause for the confiscation of property get through a Conservative House of Commons?

I know of cases of people saving for years to buy a few houses, which they fondly believed to be worth £300 each, and find that the offer is about £75, the value of the land upon which the house stands.

If the houses have not been paid for and are mortgaged, the compulsory taking means absolute ruin.

HENRY LOVEGROVE.

# SOCIETIES AND INSTITUTIONS

## INSTITUTION OF PUBLIC LIGHTING ENGINEERS.

Mr. W. J. Liberty, Public Lighting Superintendent of the City of London, has been invited by the Society of Engineers to give a paper on the "History of Artificial Lighting" before the Society at their first ordinary meeting of the next session, on October 4, in the apartments of the Geological Society, Burlington House, Piccadilly.

The following have been received into membership of this institution :—

*Members.*

Henry Adam, Electrical Engineer, Annfield Plain.

J. E. Adams, Distribution Superintendent, Paisley.

T. G. Bransford, Public Electric Lighting Superintendent, Stepney.

H. H. Denton, Engineer and Manager, Corporation Electricity Works, Crewe.

G. Smith, Borough Surveyor, Ilkeston.

J. W. Thirsk, Engineer and Manager, Corporation Gas and Water Department.

George Todd, Public Lighting Superintendent, Rothwell, near Leeds.

F. E. Ward, Engineer and General Manager, Corporation Gas Works, St. Helens, Lancs.

W. Wilson, Corporation Gas Engineer, Burton-on-Trent.

*Rated up from Junior Members to Full Members.*

W. J. Brady, Public Lighting Inspector, Gas Light and Coke Co., London.

H. C. Brown, Public Lighting Inspector, Gas Light and Coke Co., London.

Frederick Graham, Public Lighting Inspector, South Suburban Gas Co., Sydenham.

*The following were received in as Associates.*

A. E. Jepson, A.M.I.E.E., General Electric Co., Sheffield.

Capt. Jolley, L.B.W., Research Engineer, G.E.C., Research Laboratories, Wembley.

T. E. Ritchie, Chief Illuminating Engineer, G.E.C., London.

*Junior Members.*

Frederick Cooper, Electric Section, Public Lighting Department, Leeds.

T. Went, Assistant Superintendent, Public Lighting Department, Leeds.

## CARDIFF TECHNICAL COLLEGE.

### Department of Architecture and Civic Design.

The following awards have been made as a result of the Sessional Examinations at the School of Architecture at the Technical College, Cardiff. Professor A. C. Dickie, M.A., F.S.A., A.R.I.B.A., was the External Examiner.

*Fifth Examination.*—For the Diploma awarded at the end of the five years' full-time (day) course. Individual students who are awarded this diploma are exempted from the R.I.B.A. Final Examination with the exception of the subject of Professional Practice.

B. W. R. Thomas, L. Monroe, and W. O. Oakley, Diplomas awarded on interim reports, 1925-26.

J. B. Wride, Diploma with Distinction.

V. Banks, Diploma.

H. A. Barton, Diploma.

F. W. Harper, Diploma.

*Fourth Examination.*—H. Bull.

*Third Examination.*—For the Certificate awarded at the end of the three years' full-time (day) course, exempting from the R.I.B.A. Intermediate Examination :—

P. G. Budgen, Certificate with Distinction.

*Second Examination.*—A. E. Jewell, F. W. Honeywell, Miss O. E. Price, C. J. Bartlett, and J. Lewis.

*First Examination.*—F. W. Aitken, J. W. Bishop, and C. A. E. Thatcher.

# ROYAL FINE ART COMMISSION

THE second report, dated July 5, 1926, of the Royal Fine Art Commission (Cmd. 2712, price 2d. net), was issued last week. The members of the Commission are Lord Crawford and Balcarres (chairman), Sir Reginald Blomfield, R.A., Sir D. Y. Cameron, R.A., Sir George Frampton, R.A., Mr. J. A. Gotch, Lord Lee of Fareham, Sir Edwin Lutyens, R.A., Mr. D. S. MacColl, and Mr. P. S. Worthington, with Mr. T. H. Mawson and Sir Aston Webb, R.A., as honorary corresponding members.

The Commission state that since the issue of the first report in July, 1924, containing observations on the projected bridge opposite St. Paul's Cathedral, they have dealt with a variety of problems submitted by the Government and by public or quasi-public authorities. In addition to matters mentioned in the report, many others have been referred to them confidentially, upon which they think it inopportune to publish their replies.

Another matter on which they have been frequently consulted by the Office of Works is the suitability and siting of statues. "Under the Public Statues Act of 1854," they state, "no statue may be erected in a public place within the metropolitan police district without permission of the Commissioners of Works. Since the war many applications have been made to the Department for such sites, which the Department has felt compelled to provide, though exercising small control over the actual design of the monument, which is seldom paid for by the Exchequer. The selection of appropriate sites presents complicated issues. The committee of donors has usually claimed a prominent position, and so great is the appeal of memorials to large and famous branches of the Forces of the Crown that such places have usually been granted. In some central areas of London the best sites are now occupied, and it is often felt inadvisable to multiply statues in the London parks with the freedom exercised in Paris, Rome, and Berlin. It is becoming increasingly difficult to find suitable positions.

"We have also been confronted with the belief that crowded thoroughfares afford the best places, on the assumption that if many people pass along a street many people will see the statue. A United States committee offered a monument of Sir William Blackstone to commemorate the bicentenary of his birth, and it was suggested that the figure should be erected beside the great porch of the Law Courts, opening on to the Strand. We felt that such a position would be ill-suited for a large bronze effigy, and, furthermore, that the railings would obstruct the view of the statue. We accordingly recommended a site in Brick-court, Temple, adjacent to the house in which Blackstone wrote his Commentaries. In our opinion this secluded court, being in itself closely associated with the famous jurist and also being detached from a noisy and congested street, would invest the statue with a more personal and, therefore, a more effective appeal to admirers of Sir William Blackstone. A plaster cast of the statue has been placed temporarily in the Great Hall of the Law Courts.

"This country is faced by a growing difficulty of harmonising the new with the old, and preserving the old while doing justice to the new. On several occasions we have given advice upon proposed additions to existing buildings—we will quote three examples to indicate the principle on which our recommendations were based.

"(*a*) A provincial town referred to us the proposed enlargement of a municipal building. We satisfied ourselves that such an extension was required, and we recommended the corporation to consult the architect of the original structure, with whom we also conferred.

"(*b*) As soon as financial conditions permit, extensions are to be made to the National Portrait Gallery and to the Natural History Museum. In each case the architect is deceased, and the building has marked characteristics of its own. The Portrait Gallery was erected in 1896 by Ewan Christian, and has a façade in the manner of the early Florentine palaces, while Mr. Waterhouse's immense building at South Kensington is what may be called Romanesque in style and is faced with terra-cotta. It has a central and subsidiary towers of special prominence. In neither case did we hesitate to report that, in designing the extensions, the architect was under any obligation to copy the prevailing style. To do so would entail a mechanical reproduction of material or method, while such additions might injure the unity and proportion of the original structure. Provided that the new wings are sufficiently disengaged, the architect should be free to make the additions according to his own ideas and in conformity with the requirements of museum design.

"(*c*) A case was submitted to us by the authorities of University College, London. The fine central façade by William Wilkins at the further side of the quadrangle is visible from Gower-street. The college authorities showed us a skilful design for a colonnade which would have provided an upper communication between the two lateral wings. Had it been proposed to use this frontage for collegiate purposes it would have been difficult to criticise the scheme, in view of the need for increased accommodation; but we felt that any additional convenience or advantage derived from the colonnade would not compensate for the loss of the spacious architectural effect which confers so much distinction on the collegiate building. Wherever possible we have advised in the interest of conservation."

### Waterloo Bridge.

Dealing with the question of Waterloo Bridge, the Commissioners state that, though their opinion was not officially invited by the London County Council, "the Council, in February, 1925, were courteous enough to hear our representations in favour of maintaining the present structure. In March, 1926, after it was decided to remove the bridge, we were invited to offer our opinion as to the best means of promoting a competition for the new bridge. Having opposed the destruction of the old bridge, we felt much hesitation in co-operating in the erection of a new one, but when consulted by a public authority of such importance as the London County Council, we felt compelled to give every assistance in our power. We therefore explained that in submitting our views about a new structure we in no way abated our desire that Rennie's bridge should be strengthened and preserved. The London County Council were good enough to express appreciation of the Commission's attitude, and a conference was accordingly held. In this, as in other cases, we refrained from suggesting the names of artists or architects, and we gave our views as to various aspects of the competition. On two questions of principle we think it advisable to record our opinions. While advising the London County Council to give the greatest possible latitude to competitors, we suggested that the assessors should take into account the relation of the new Waterloo Bridge to adjacent and more distant buildings, particularly Somerset House and St. Paul's; moreover, that without in any way expressing preference or giving a lead to assessors or competitors, the Council should allow competing architects, if they so wish, to incorporate the terminal arches of the existing bridge.

"A further point arose—namely, the limitation of competitors to British subjects. In suggesting this we are aware that the range of competition would be narrowed, and that London would be unable to draw upon the experience and resource of foreign bridge builders who have produced notable work in recent years. We felt that in this important work the ability of British architects and engineers should suffice to do justice to the enterprise."

### The City Churches.

In reply to inquiries by the Treasury the Commission have stated that they are opposed in principle to a measure which provides for the destruction of some 20 national monuments of great historic and architectural value.

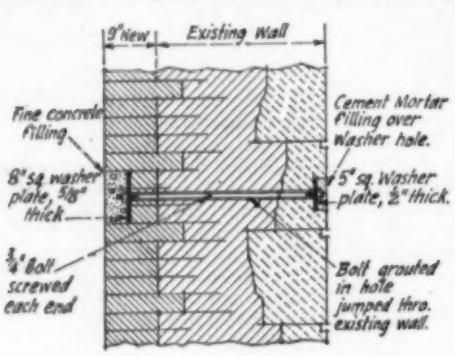
# STRUCTURAL PROBLEMS—IV

## CONNECTED WITH THE PROVISION OF AN ADDITIONAL STORY TO AN EXISTING BUILDING.

BY G. A. GARDNER, M.I.Struct.E., Assoc.I.E.E., etc.

WHERE the existing walls have to be strengthened, the method of carrying out the thickening must be carefully considered; and in cases where the brickwork is suffering over-stress and evincing signs of incipient failure, due precautions are necessary in arranging the sequence of operations.

It not infrequently happens that the builder's views as to the *cheapest* way of carrying out the work, and the structural engineer's requirements based on the necessity of obviating undue risks, are somewhat at variance; but it is poor economy to run a serious risk of failure. In this connection the general points to be borne in


9" New
Existing Wall
Fine concrete Filling
Cement Mortar Filling over Washer hole.
8" sq. Washer plate, ⅝" thick
5" sq. Washer plate, 2" thick.
¾" Bolt screwed each end
Bolt grouted in hole jumped thro. existing wall.

CROSS SECTION THRO. STRENGTHENED WALL

FIG. 10.

mind are that the cutting out at any one time for bonding should not be so extensive as seriously to weaken the wall, and that subsequent cutting out should be so arranged as not to disturb the newly-laid work.

As to whether block-bonding or coursed-bonding is to be employed will depend on matters of detail, but where an intimate relationship is required between the new "skin" of brickwork and the old walling, for strength purposes rather than for lateral stiffness, the new work should be bonded by continuous headers every fourth, or in some instances every other course, although the latter procedure is inadvisable if the brickwork is of such a nature as to be easily shattered by the cutting out.

Some variety of "engineering" brick, such as Flettons or Staffordshire Blues, is generally used for the thickening, and care must be taken to ram the mortar thoroughly into the joints where they run under the projecting bonding courses of the existing work. The ordinary trowel is not suitable for this purpose, as it tends to cut through the mortar rather than to ram it home, and a much better expedient is to use a short length of steel bar about 3 in. by ½ in. and to drive the mortar in by ramming it with the flat end.

In the case of bricking up openings, similar care must, of course, be taken to "pin up" the old work thoroughly; and the sides of openings should be toothed out to form a satisfactory bond—a necessary precaution being observed by not commencing the toothing too close up under the seating of the relieving arch or lintel (if any).

Where an old wall is faced on one side with ashlar it will be found—especially in the case of an interior wall—that there is sometimes very little bonding between the stone and brickwork; the former being rough-hewn and splayed at the back and the latter consequently much broken up. If the whole plan-section of the wall, including any thickening, is to be credited with sustaining the pressure, it is a wise precaution to "stitch" the stone facing through to the existing brickwork with steel bolts and washer plates, as shown in Fig. 10. The writer recently carried out some extensive stitching of this kind, where the bolts were placed at about one per 2 sq. yards of wall surface, and where thin grouting was run in under a head of about a foot, by building up a clay funnel at one end of the bolt and providing a clay dam at the other. In such a way not only will the bolt be grouted, but any voids and interstices in the walling will tend to become filled.

In cases where brick thickening has to be added on the ashlar faced side of a wall, the stone (which is usually a soft limestone) may be toothed out for block-bonding with the brickwork, and the original appearance of the wall restored by treatment in plaster or cement. The fact that interior stonework is often found to be painted, gets over the difficulty of treating the surface, especially where patches have been left by the filling in of the recesses cut for the stitching-bolt washers. In connection with the finish of the restored wall the structural engineer often feels duty-bound to swallow his own pride and pay respects to the architect and builder for so skilfully consigning the engineers' works to the realm of oblivion. It not infrequently happens that with considerable skill some heavy steelwork is introduced into an interior ashlar wall to relieve a failing stone pediment over a large doorway, for instance, and that at the completion of the structural work the architectural features are restored in cement and plaster. The labours of the engineer are hidden, but he consoles himself by secretly regarding the bunches of grapes and other enrichments as a permanent thank-offering for his work!

The footings of a wall are often increased proportionately to the thickening, but it does not follow that the usual ratio of spread to thickness of wall need be observed. The necessary spread will depend on the allowable intensity of pressure on the brickwork and concrete, and may also be governed by the dimensions of the concrete foundations and the permissible intensity of pressure on the subsoil. In connection with the latter item it is necessary carefully to consider the effect of eccentricity of loading resulting from thickening only one side of the wall.

Fortunately, it is not infrequently the case that investigations show the intensity of pressure on the subsoil due to the existing loads to be quite moderate, and that the increased loading does not call for any alterations to the foundations, although this favourable condition is sometimes modified by the relatively poor nature of the lime-concrete often met with. If the foundations are, however, inadequate, recourse may be had to confining the strengthening of the brickwork to piers arranged to take most of the extra loading due to the additional story, and to carrying out some scheme for augmenting the foundations at the pier positions only. In special cases it may be more advantageous to provide steel stanchions instead of piers to carry the added load.

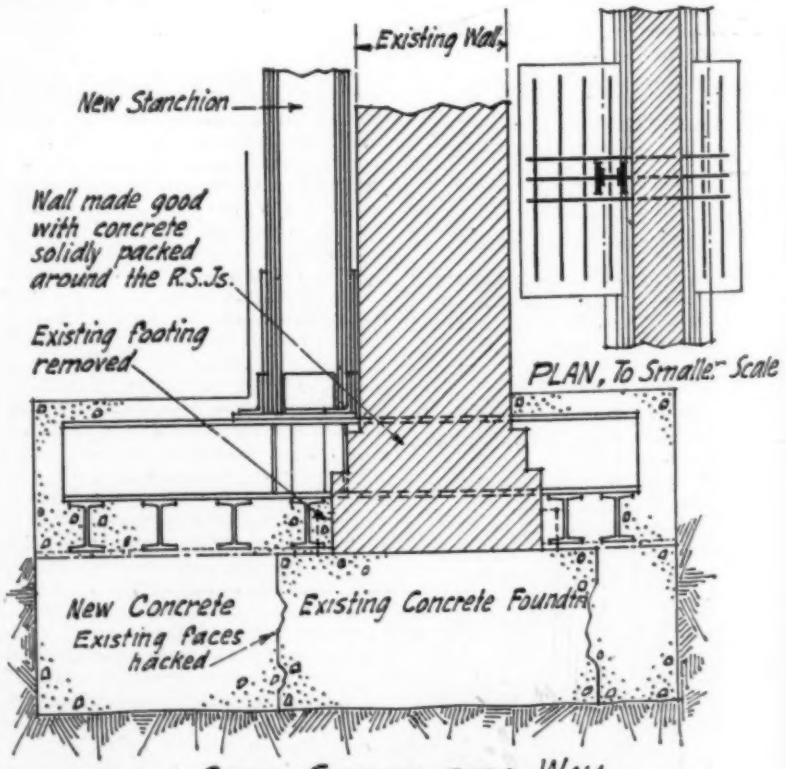
The increased foundations for the piers or stanchions can be incorporated with the existing foundations in a variety of ways, but for heavy loading necessitating a considerable spread, the employment of a steel grillage has proved satisfactory. Fig. 11 shows such a grillage for a stanchion; and a similar arrangement may be adopted in the case of a pier. The grillage beams should be designed to give as great a *stiffness* as practicable in order that their function of spreading the load out to the extremities of the foundation may actually be performed; and this desideratum, together with the general economy of design, are matters which the structural engineer must carefully consider.

It is desirable so to proportion the augmented portions of the foundations that the intensity of pressure on the subsoil is kept sensibly constant over as great a range of the work as possible; and in any case no sudden changes of pressure should be countenanced when the work is passing through the design stage.

The question of the allowable pressure on various kinds of subsoil is outside the range of these articles; but it may be mentioned in passing that a careful consideration of any local data available, backed up by a little scientific investigation at the site, is very much more valuable than the mere conjecture often relied upon. The writer is not decrying practical judgment, but is suggesting that the personal co-efficient is often misleading, and the reliance on perception alone often inadequate.

Reverting to the matter of augmenting existing foundations, the advantages of employing reinforced concrete in some cases must not be overlooked, and the use of rapid-hardening cement is another advantage which can be considered.

The existence of large openings in the wall to be strengthened, when spanned by lintels




CROSS SECTION THRO. WALL

FIG. 11.

Fig. 12

and bressummers* which are found to be inadequate safely to support the increased loads from the additional story, constitutes a troublesome condition. If, in the case of the lintels, there is not sufficient height to permit strengthening beams being placed under them (carried by steel supports at the sides of the openings) then there is often nothing for it but to carry the wall over, on shoring, and replace the old lintels by new ones.

Where the strength of a long bressummer is concerned the question of the sufficiency of any intermediate supports it may have, in the shape of cast iron columns, for instance, will be involved. It may be part of the scheme to do away with intermediate supports and provide a new bressummer to carry the wall in one span, and, in any case, if it is required to replace the existing supports by stronger members, then the loaded bressummer must be temporarily carried on shoring. It will, as a rule, be less troublesome if the existing bressummer is retained and strengthened by auxiliary beams placed under it than if it is taken out and entirely replaced by a new bressummer, for in the former case the shoring can be arranged without needles passing through the brickwork.

Fig. 12 illustrates a case carried out in the above fashion; an old wrought-iron bressummer being picked up on stools provided at frequent intervals along the strengthening girders—some of the spaces between the stools having been occupied by temporary steel needles carried on heavy dead shores either side. In this instance the weight supported by the range of shores was about 600 tons. The resistance of the strengthening girders can be evoked by wedges and/or some other type of straining tackle, as described earlier in these articles in connection with auxiliary floor beams; and in Fig. 12 the wedges are seen over each stool.

It is advisable when retaining an old bressummer, as in the instance just cited, thoroughly to encase the iron or steelwork in concrete reinforced with suitably devised stirrups, in order to afford additional structural stiffness and protection against rusting.

The shoring operations in work of the nature we are considering are often of an extensive character, and the design of the shoring system calls for careful preparation. It must not be left to the dictates of "practical judgment," but systematically calculated and fully considered as regards the arrangement of wedges, the facilities for getting into place the new steelwork, the sequence of operations, &c.; nor must the question of fire risk be forgotten. A building in use, with some important part of its structure temporarily carried on timber posts is not in a happy condition, and where the circumstances warrant the precaution, chemical extincteurs or other effective apparatus should be provided in the immediate vicinity of the shores. The question of shoring cannot be further considered here, but may perhaps form the subject of a separate article at a later date.

Calculations for the weight carried by bressummers are usually made on the assumption of the dispersion of point loads coming onto the wall above, as already described in connection with pressures on brickwork; and where circumstances warrant it a reduction may be made for the arching effect of an imperforate wall, tending to relieve the load on the central portion of the bressummer and communicate it to the ends. The degree to which arching can take place depends, *inter alia*, on the relative stiffness of the wall and the bressummer and on the manner in which the resistance of the latter is evoked (*e.g.*, by wedging); and the tyro must be warned against making a too hasty conclusion in this respect, for in some cases it may happen that the contiguous portions of the wall outside the span are tending to arch on to the bressummer! The distribution of heavy loads from columns and stanchions supported by walling will be considered hereafter in dealing with the strengthening of existing pillars.

The limiting load which may safely be allowed on a particular stanchion or column is a matter which often leads to much controversy, and although this is partly due to the inherent uncertainties underlying some of the factors included in practical strut formulæ, it also arises from a lack of intensive study of this important subject on the part of many who are associated with structural problems. It is a comparatively simple business to design an ordinary stanchion or column of any form, with certainty as to its safety; but to decide exactly how much additional load an existing one may be permitted to sustain without too closely approaching a condition of incipient failure is a matter for the structural specialist; and the ultra safe limitations imposed by out-of-date building regulations are a serious handicap when the question of adding the load from an additional story is under review. The building codes are, of course, meant to cover a wide range of ignorance, but it is high time that they were modified to accord with the dictates of more economical design, and that, coupled with this, the desirability of placing structural work in the hands of a competent engineer should be more widely recognised. It is worthy of note that there are many columns and stanchions safely carrying their loads, although as new members, coming under the ban of a typical building code, they would not be credited as capable of supporting any load at all!

On the other hand, it sometimes happens that the layman cannot appreciate the engineers' decision as to the risk of increasing the load on a particular stanchion; and this, of course, arises from the fact that a state of incipient failure in a stanchion is not so apparent as it is in the case of a beam—the deflection of the average stanchion being so minute. The history of structural failures fortunately includes but few cases due to stanchion or strut collapses, although those that have occurred have been very disastrous. The argument that certain columns, for instance, "have stood for thirty years" must not be allowed to over-ride the necessity of making a thorough technical investigation where any increase in loading is contemplated.

(*To be concluded.*)

* The word "bressummer" (Brest-summer, a summer or beam placed horizontally; from Fr. sommier, a rafter) is used in the sense given in the L.B. Act, 1894, i.e., a beam or metallic girder which carries a wall.

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## RURAL HOUSING: PRESERVING ARCHITECTURAL HARMONIES

In a letter to *The Times* on this subject Professor Patrick Abercrombie writes as follows:

"All those who agreed with Sir Charles Walston's letter of some months past must have rejoiced when Mr. Chamberlain introduced his Bill for reconditioning existing rural cottages. In this county, as vividly as anywhere, can be observed the yearly falling into disuse of old cottages, to be rescued eventually by some summer visitor, and thereafter lost to agricultural workers for ever. Again, there are many hundreds of cottages structurally sound which appear to be one-storied bungalows, but actually contain sleeping quarters (known as Grog-lofts) in the roof, unlit and unventilated, incubators of consumption; these buildings can be converted into reasonably healthy habitations by means of dormer-windows.

"But the special aspect which Sir Charles Walston stressed in his earlier letter was the architectural one; without some such assistance to existing rural houses, our old villages would gradually crumble away. This is indeed true; but may I point out that action has its dangers no less than inaction? An energetic use of this Act (as it must shortly become) might start a campaign for the throwing out of bays, inserting of stock plate-glass sashes, sprucing up with terra-cotta strings and cornices, red ridges to blue roofs, and stained-glass panels to front doors of pattern-book design—gone, the dignified charm of the English village!

"Mr. Chamberlain has wisely made the county council the normal channel for grants (with powers to delegate to a smaller authority where proved competent), largely, it is to be supposed, because the county council is able to find the necessary money for the exercise of artistic control. Are the counties preparing the necessary machinery? There are three courses open:—(1) An art advisory committee for each county, modelled on that of Mr. Chamberlain's own city of Birmingham; (2) the control of "character," under the Town-Planning Act; (3) special legislation on the model of the recent Bath Corporation Act.

"Here is at once a task for the Council for the Preservation of Rural England, which is to be launched in the autumn—a body upon which are represented the County Councils' Association, the R.D.C. and U.D.C. Associations, the Royal Institute of British Architects and Town-Planning Institute, the Society for the Preservation of Ancient Buildings, and S.C.A.P.A., together with some 25 other equally interested associations—and is exactly the one to work out a system of preservation combined with improvement. This should be ready as soon as the new Bill becomes law, for the county councils will at once be inundated with applications for the grant, and their existing staffs cannot possibly find time to examine every village in their county and to determine whether alterations proposed are in keeping with existing architectural character."

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# ILLUSTRATIONS

### Armenian Church, Iverna Gardens, Kensington.

The plan of this building is in the form of a Greek Cross with the addition of an apse at the east end, and a sacristy at the south. The entrances on the north and west are necessitated by the ritualistic requirements. The design is adapted from the remains of an existing building of approximately the same size in the Cloisters of Haghbat, in Armenia, in the style of the thirteenth-century Armenian Byzantine, with a Saracenic influence. The details have been adapted from existing fragments, and the horizontal jointing carefully disposed with regard to the scale and requirements of the various architectural features. There is no carving or decorated mouldings on any portion of the exterior.

The construction is in London stock bricks with Portland stone facing to an average depth of 6½ in. Four brick piers, of dimensions required by the London Building Act, tied at the base beneath the floor level by reinforced concrete tie beams, support four reinforced concrete arches on which is constructed a reinforced concrete saucer dome and pendentives, all being formed in the same casting. This supports a circular Portland stone drum carrying the seven columns on which rests the turret.

The turret is heptagonal on plan, constructed in reinforced concrete, braced laterally, and is faced externally with Portland stone tiles, the finished surface having a slight entasis. The lateral braces of the turret carry two bells, electrically operated by mechanism contained in the drum supporting the tower. Access is provided and control is by two switches in the sacristy. The gilded finial and cross serve also as a lightning conductor for the building. The external walls are of the London Building Act thickness with roofs constructed in reinforced concrete, with Portland stone tiles true to type on a layer of asphalt. The carved corbel corners of the exterior are a Saracenic feature, and have an octagon as the basis for setting out. The two richly carved doors are in oak with detail adapted from ancient examples.

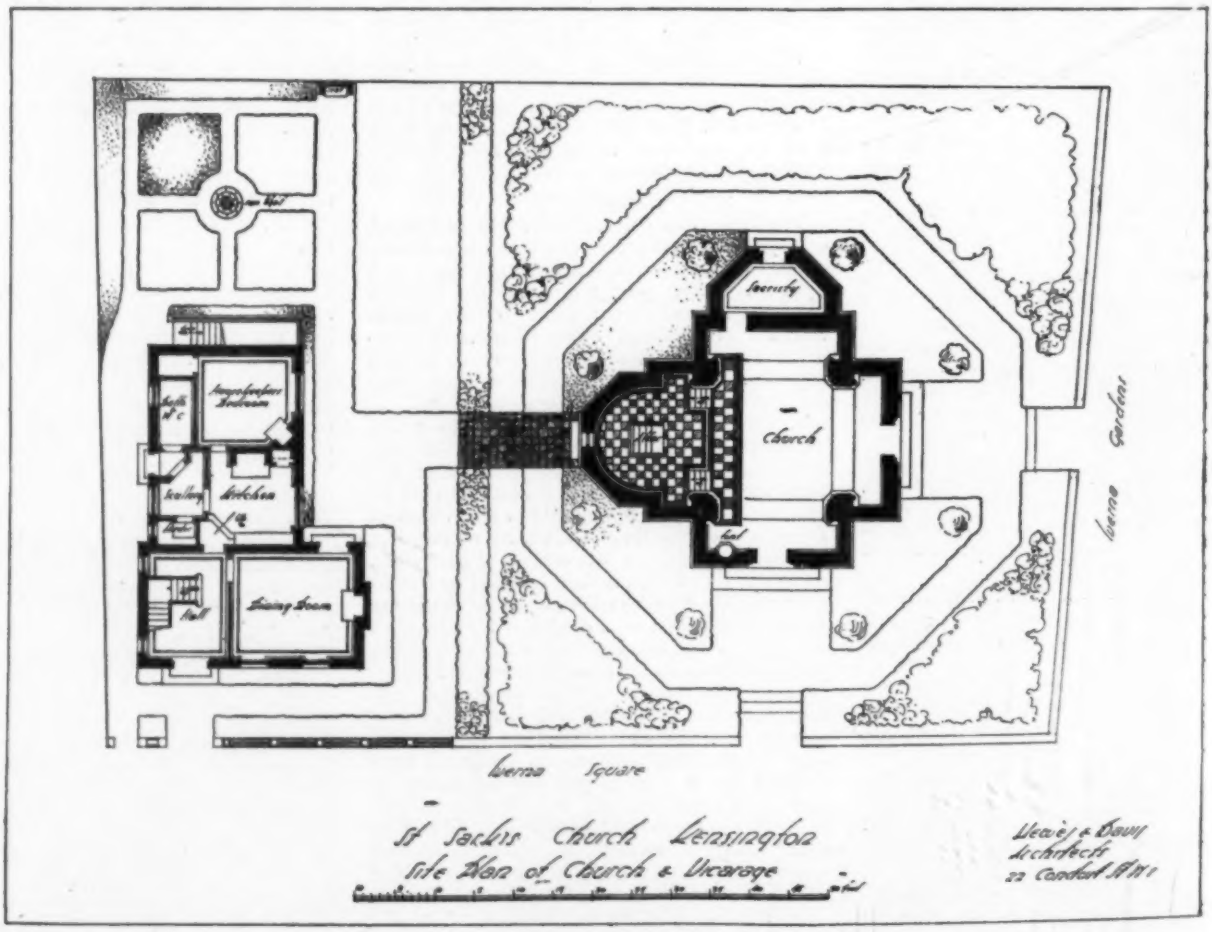
The interior is carried out in artificial stone, the supporting piers being moulded with caps and bases of typical detail, the decorative bands, architraves, &c., from existing fragments. The baldachino is designed to conform with the requirements of the ritual of the Armenian service. The upper part is constructed in alabaster, resting in a pentelic marble base, which is inlaid with lapis lazuli, rouge skyros, and green Mexican onyx. The ornamental capitals, bases, bas-reliefs, crosses, &c. are of gilded metal. The interior of the dome is painted blue with gilt stars, and with secret lighting controlled by easily accessible switch at the back of the altar. The chandelier is heptagonal, a figure which is symbolic in the Armenian religion, and is designed from records of the twelfth century—wrought-iron with embossed decorative scrolls, twenty-one candles. Heating is by low-pressure hot water, operated direct by coal-fired boilers in a semi-basement, which forms part of the permanent construction of the vicarage.

The general contractors were Messrs. Holloway Bros., and the following were sub-contractors: Monoyer Construction Co., imitation stonework and paving (Roman stone); Paul Turpin (decorator), handrail, carved oak doors, and leather doors; Whiteheads, marble work; Bromsgrove Guild (Birmingham), Ltd., gilt decoration and baldachino; Gillett & Johnson (Croydon), automatic bells; Bagués, Ltd., chandelier; Richard Crittall & Co., Ltd., heating; H. J. Cash & Co., electrical works; and Furze & Co., lightning conductor.

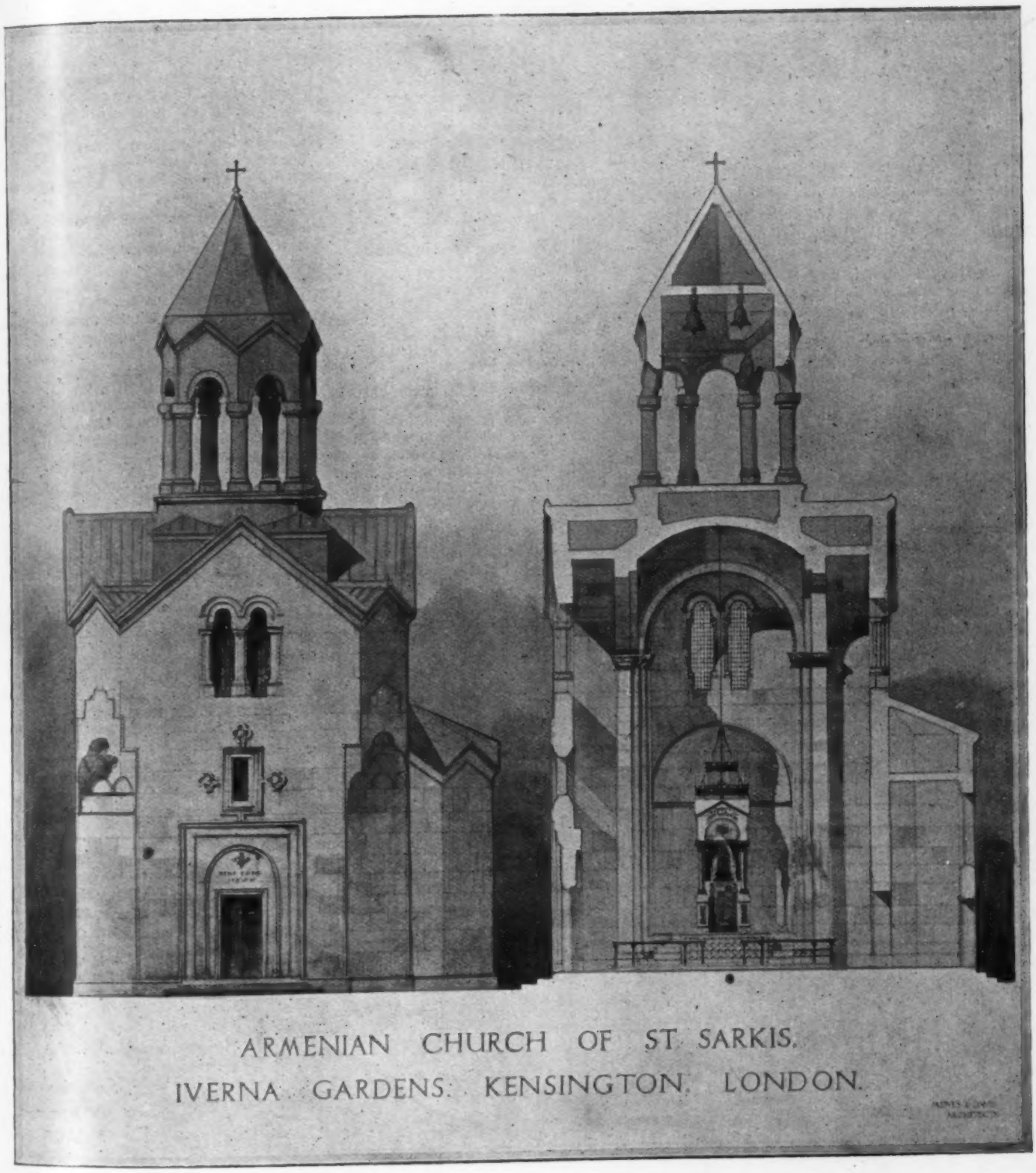
**The architects were Messrs. Mewes & Davis, Conduit-street, London.**

### Proposed House at Moor Park.

The house is so placed that the principal rooms, viz., dining-room, sitting-room and best bedroom command views towards the north—the best view. The bathroom and w.c. are placed at the N.W. side, so as to be away from the sun. By means of the projection on the N.E. front, the morning sun will penetrate the dining-room and best bedroom, and the sitting-room and guests' bedrooms will have the sun all day. The maids' room also faces S.W. On the first floor, the four main bedrooms are grouped with the staircase, while the bathroom, w.c. and h.m.c. and servants' bedroom form a group on a secondary communication. Corridors are avoided as much as possible in order to prevent unnecessary walking from one point to another. The pantry is the connecting link between the home proper and the service, and there is no direct access with the kitchen. By this means, all objectionable smell of cooking is eliminated. The fuel store and maids' w.c. are so placed that they are reached under cover, and at the same time have no direct communication with the interior of the house. Economy has to a large extent dictated the plan. Angles as far as possible have been avoided, and a short roof span has been adopted. The facing bricks are to be sand-faced and hand-made, of a dark-brown hue. The roof of plain sand-faced tiles; the copings of artificial stone, and the thresholds of York stone. The walls are built of two 4½ in. thicknesses, tied with galvanised iron ties with a hollow space between. The central heating is intended to be carried out by means of a "Cookanheat" stove in the kitchen and radiators in the positions shown on plan, and hot water is carried by means of a cylinder in the linen cupboard to the bathroom and lavatories. There are coal fires in the sitting-room, dining-room, and bedrooms 1 and 2; the remaining bedrooms being wired for electric stoves. The architect was Mr. Cyril A. Farey, A.R.I.B.A., Bedford-square, W.C.



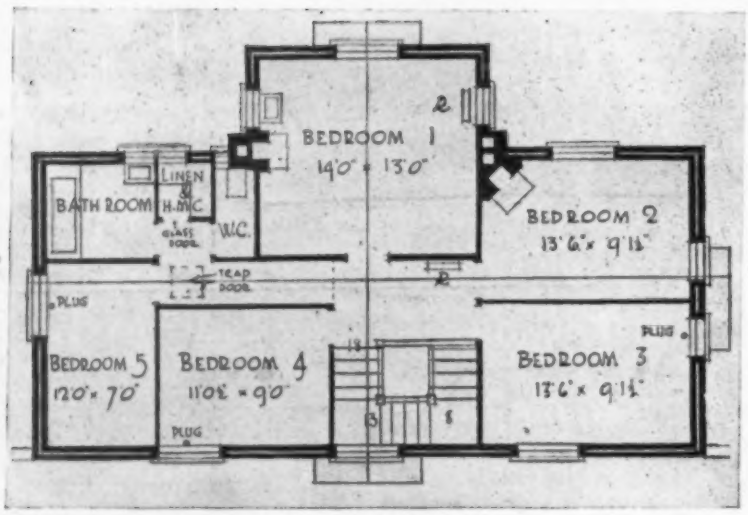

**Armenian Church, Kensington.**



ARMENIAN CHURCH OF ST SARKIS.
IVERNA GARDENS. KENSINGTON. LONDON.

R.A. Exhibition, 1926.

Messrs. Mewes & Davis, Architects.




**Proposed House, Moor Park.**

### Raffles College, Singapore: View of Hostel Quadrangle.

Raffles College, Singapore, is now in course of erection. The buildings are terraced on the spur of a hill, the drawing showing part of the upper Quadrangle with one of the hostel blocks and part of the science block. The domed pavilion contains large lecture theatre on the upper floor, small lecture and professors' room on lower floor; while cloak rooms are placed under, opening on to the lower quadrangle. All blocks are connected by cloisters and broad verandahs. Walls are of brick finished externally with Atlas white cement; pitched roofs are covered with Marseilles tiles. Floors throughout are reinforced concrete slabs carried on R.S.J.'s cased in concrete. All woodwork is of local hardwood (Chenghai). Metal windows with wooden louvres are employed in domed pavilions, all other windows being wood. No glass is used in the windows, which are all louvred.

In the Hostel block of Raffles College the British Reinforced Concrete Co. are supplying all mesh reinforcement while steel trusses and R.S.J.s are by Messrs. Dorman Long.

The architect is Mr. Graham R. Dawbarn, in collaboration with Mr. Cyril A. Farey.

### Foord Almshouses: Interior of Hall.

The illustration shows a view of the Hall at this Institution looking out of the entrance door into the quadrangle. The panelling, carried up about 9 ft., is in Austrian oak with carved console brackets arranged to mark certain bays, and over this is a deep painted frieze, representing historical and interesting local public events in the past history of the City of Rochester. These are being painted by Professor Gerald Moira, in oils on canvas.

The ceiling is a cross barrel vault left quite plain, from which is suspended a rich chandelier, executed by Mr. Bainbridge Reynolds. The painted windows are by Mr. R. Anning Bell, R.A., and display coats of arms of the founder and other heraldic devices of local interest. The oakwork is being executed by the builders, Messrs. E. Wallis & Sons, of Maidstone, and the carving to same by Mr. Laurence Turner, of Lamb's Conduit-street, London, W.C.

### A Small House in Sussex.

The construction of the house is, on the ground floor local stocks, and the upper floor of timber framing with breeze backing covered with old Sussex-shaped fishtail tiles. The roof is covered with old tiles from off a demolished barn, the whole of the internal joinery is of Columbian pine stained nut brown. The house is situated on the edge of the Balcombe Forest in Sussex. The contractor for the work was Mr. C. W. Parkes, Janes-lane, Burgess Hill, Sussex. The following were sub-contractors: Messrs. Munnion, Lindfield-road, Ardingly, Sussex, metal window frames and leaded lights; Messrs. Samouelle, Albert Embankment, S.E.1, heating and plumbing; Messrs. Cheal & Sons, Crawley, Sussex, garden work. Mr. A. B. Llewelyn Roberts (Messrs. Collcutt & Hamp), is the architect.

### Proposed Group of Three Houses near Guildford.

Approximate estimates are £2,500 for the centre house, and £2,000 for each of the side houses. In the centre house two bedrooms for maids, with own bathroom and ventilated passage, are cut off from the rest of the house. The side houses are entered by hexagonal halls, vaulted staircases winding up between walls to hexagonal landings above. All the houses are planned on two floors only, and drainage is concentrated as far as possible. Mr. G. R. Dawbarn, A.R.I.B.A., is the architect.

### House near Malton.

The contractors of this house were Messrs. Williams & Sons, Oxted, Surrey, and Mr. P. D. Hepworth, F.R.I.B.A., was the architect.

### "Livermead Close," Torquay.

A description of this house appeared in our issue of August 6, p. 204. The architect is Mr. F. Harrild, M.A., A.R.I.B.A.

### "Witherton," Newnham-road, Cambridge.

This house has been especially designed to meet a doctor's requirements, and contains waiting-room, dressing-room, consulting room, in addition to hall, drawing-room, dining-room, kitchen, maids' sitting-room, larder, garage, &c., and seven bedrooms, bathroom, &c. The structure is of hollow walls, part being faced with multi-coloured sand-faced bricks, and the remainder finished in stucco. The roof is covered with brown sand-faced tiles. The architect is Mr. Charles F. Skipper, F.R.I.B.A., of Cambridge, the general contractors being Messrs. Johnson & Bailey, Norfolk-street, Cambridge.

### New Chancel Screen, Maldon Church, Essex.

The screen was executed by Messrs. R. L. Boulton & Sons, of Cheltenham, in finest Austrian oak and wax polish finish, and dedicated by the Bishop of Colchester. The architect was Mr. Wykeham Chancellor, M.A., F.R.I.B.A., of Chelmsford.

### Extension of Lloyds Bank, Exeter.

This building forms an extension to the existing Bank premises in High-street, Exeter. The extension comprises extra strong-room accommodation and lavatories in the basement, whilst on the ground floor the whole of the fittings and planning of the Banking Hall have been rearranged. On the upper three floors staff dining-rooms, kitchens, and rest-rooms are provided. The elevation is built generally of Portland stone relieved with a polished Cornish granite base, with red brick flanking pilasters.

The general contractors were Messrs. Westcott, Austin & White, of Exeter, whilst the various subcontractors were as follows:—

Steelwork, Messrs. Stock & Collings, Bristol; reinforced concrete, Messrs. Harding & Son, Torquay; metal windows, Messrs. Hope & Co., Birmingham; decorative plasterwork, Messrs. Bockbinder, Ltd., London; internal fittings, Messrs. Shapland & Petter (1924), Ltd., Barnstaple; locks, door and window furniture, Messrs. Alfred Brown & Co., Birmingham, and Messrs. Otton & Son, Ltd., Exeter; lift, Messrs. Waygood Otis, Ltd., London.

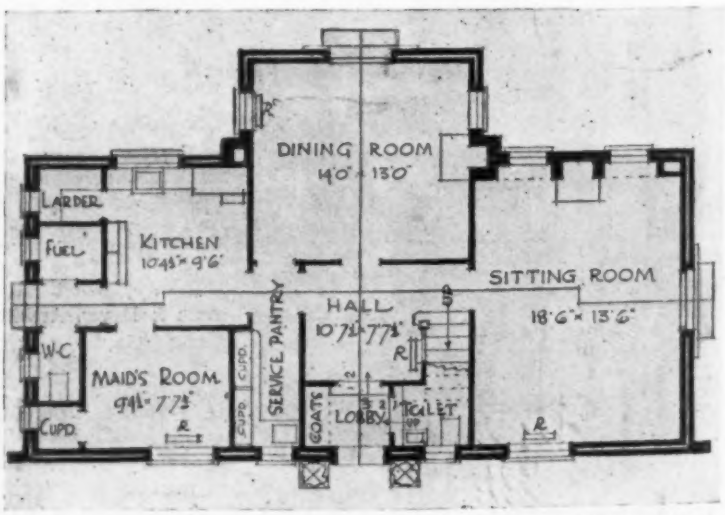
The architect is Mr. J. Archibald Lucas, F.S.I., F.R.I.B.A., of Guildhall-chambers, Exeter, who also designed the building to which this extension has been added.

### Chelmsford Union.—New Infirmary and Nurses' Home.

The infirmary provides accommodation for 120 beds, arranged as follows:—Four main wards of 24 beds each, two three-bed wards, two two-bed wards, four single-bed wards, two children's wards of four beds each, and one two-bed maternity ward.

Each main ward is 75 ft. × 24 ft., and has attached a large sun-room facing south, with beautiful prospects over the golf links, an open verandah or balcony, its own bathroom, lavatories, sink room and linen store, with fire-escape exits at the ends of the wards. Over the main wards the roofs are flat, covered with asphalt, and can be used for any form of open-air treatment. In addition to this accommodation, there is on the ground-floor a large room for the medical officer and dispensary, with a specially designed cupboard fitment and a duty room with the necessary stores and larder. The maternity ward is placed on the second floor, and attached to it is the labour room and separate room for sinks, etc.

The main staircase is in oak in order to be fire-resisting, and a patients' lift is fitted serving all floors. In the basement are located boilers and fuel stores.




**Proposed House, Moor Park.** MR. CYRIL A. FAREY, A.R.I.B.A., Architect.

The building is of brick, faced with red bricks made in Chelmsford; the floors throughout are of fireproof hollow blocks, and the roof of the central portion is covered with sand-faced tiles. The wards have floors of linoleum and painted plaster walls; the dispensary, duty rooms, and corridors have "terrazzo" floors and dadoes. The whole of the internal joinery is of Oregon pine stained and varnished. The sanitary fittings have been specially designed to avoid unnecessary cleaning. Wherever possible in lavatory basins the taps are located at the side, operated by enamelled levers, and where not possible the fittings are bronzed to obviate cleaning. All door furniture likewise is of bronze to obviate cleaning.

The windows of children's wards, sun-rooms, and upper portion of ward windows on the south are fitted with "Vita" glass. The building is heated throughout by hot-water radiators, with fireplaces in some of the smaller wards. The building is lighted by electricity throughout. The main ward furniture has been specially designed by the architects.

The Nurses' Home is a separate building, and has been designed in a more domestic style, with windows of iron casements and leaded lights. The accommodation is for 20 nurses, and consists on the ground floor of dining-room and sitting-room for nurses designed to be thrown together for recreational purposes, a charge nurses' sitting-room, superintendent nurse's sitting-room, kitchen, stores and lavatory accommodation. Twenty bedrooms are arranged on the first and second floors, with five bathrooms, and with the necessary linen rooms and lavatory accommodation, and ample storage is provided in the roof for boxes, etc. Each bedroom is fitted with a good hanging cupboard and drawer. A balcony on the first floor, facing south, has a beautiful prospect across the golf links.

The general contractor has been Mr. T. J. Bailey, of Chelmsford, and the clerk of works Mr. A. E. Wright. The sub-contractors have been as follows: Sanitary fittings, The Leeds Fireclay Co.; lift, Messrs. Waygood Otis & Co.; asphalt flats, Messrs. Engert & Rolfe; fireproof floors, the Kleine Patent Fire-resisting Flooring Syndicate, Ltd.; terrazzo floors and dadoes, Messrs. Diespeker & Co.; the joinery and special furniture, Messrs. J. Sadd & Sons, of Malden; electric lighting, Messrs. Christy Bros., of Chelmsford.

The architects of the scheme have been Messrs. Tooley & Foster, FF.R.I.B.A., of Buckhurst Hill, Essex.

The new buildings were recently opened by the chairman of the Board, Mr. F. G. Marriage, J.P.

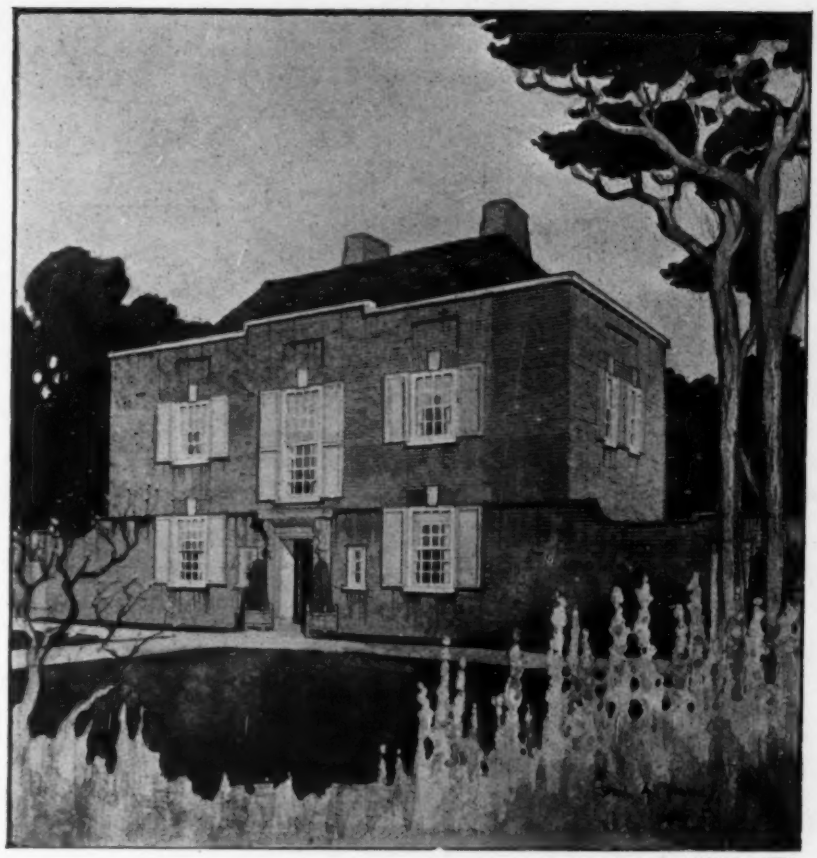
### Business Premises, Cheltenham.

These premises for Messrs. Boots, Ltd., are situated at the corner of High-street and North-street, Cheltenham, and are erected on the site of the old shop and adjoining bank. The shop has a main entrance in High-street and another entrance in North-street. A passenger lift is provided to the first and second floors. A café is arranged on the first floor with ample cloak-rooms and lavatories, etc. A loggia is shown at the front, where tea can be served in the open air, and is pleasantly situated, looking down the Parade. A library is also provided on the first floor, and kitchens and staff-rooms are arranged on the second floor.

The exterior of the building is faced with carefully selected Bath stone. The head contractors for the work are Messrs. Collins & Godfrey, of Tewkesbury, who themselves carried out a large portion of the work frequently allotted to sub-contractors. The steelwork was executed by Messrs. Moreland, Hayne & Co., of London. All the internal fittings and shop front are carried out by Messrs. Boots' cabinet department. Messrs. Bromley & Watkins, of Nottingham, are the architects.

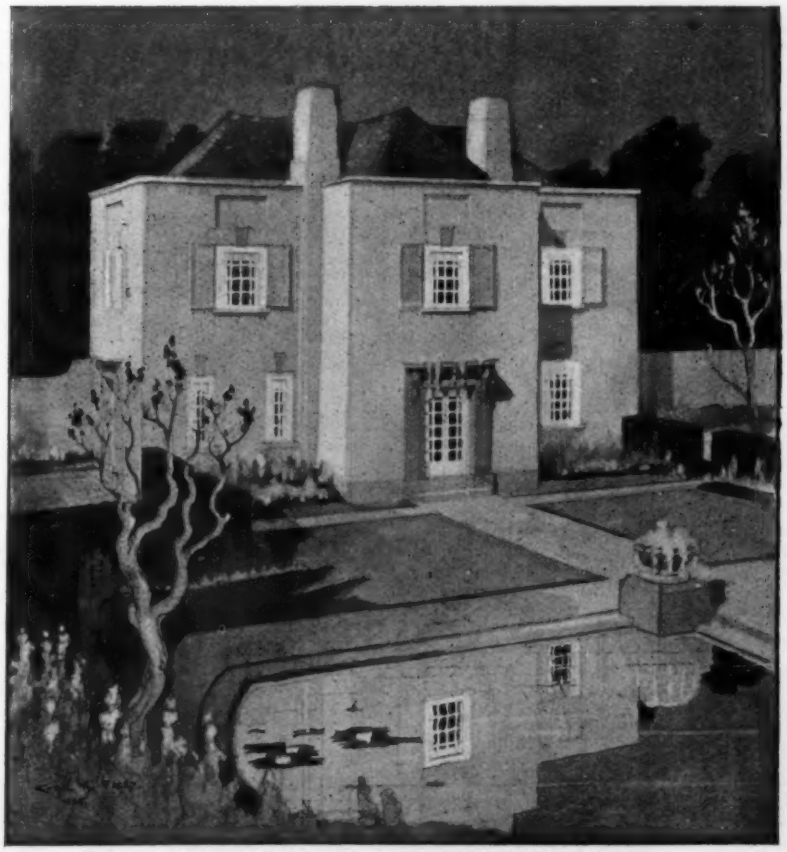
### Royal Institute of British Architects.

In the Intermediate Examination list, June, 1926, given in our issue of August 13, E. W. Mayson should read E. W. Hayeom.



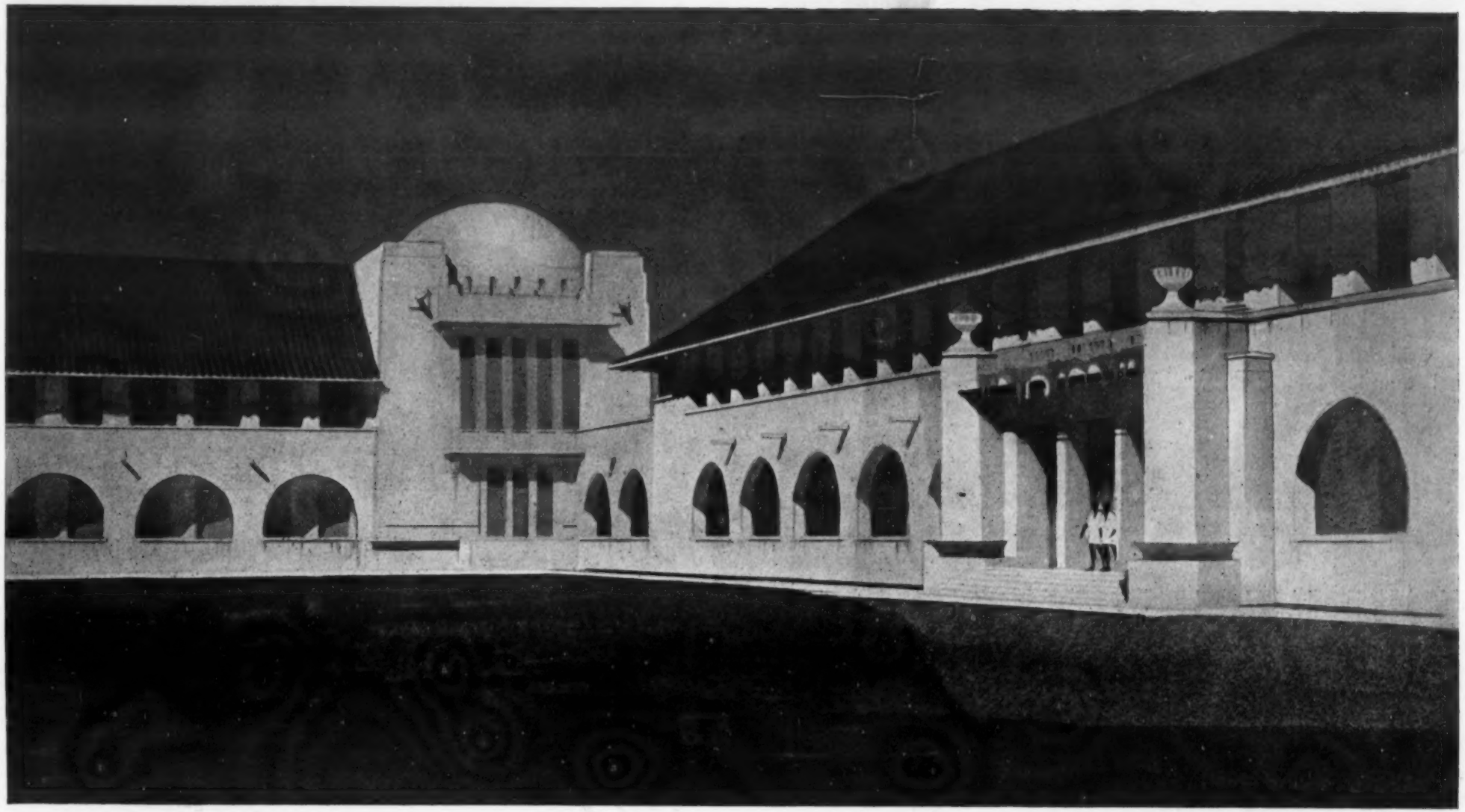
R.A. Exhibition, 1926.

**Entrance Front.**



**House at Moor Park.**

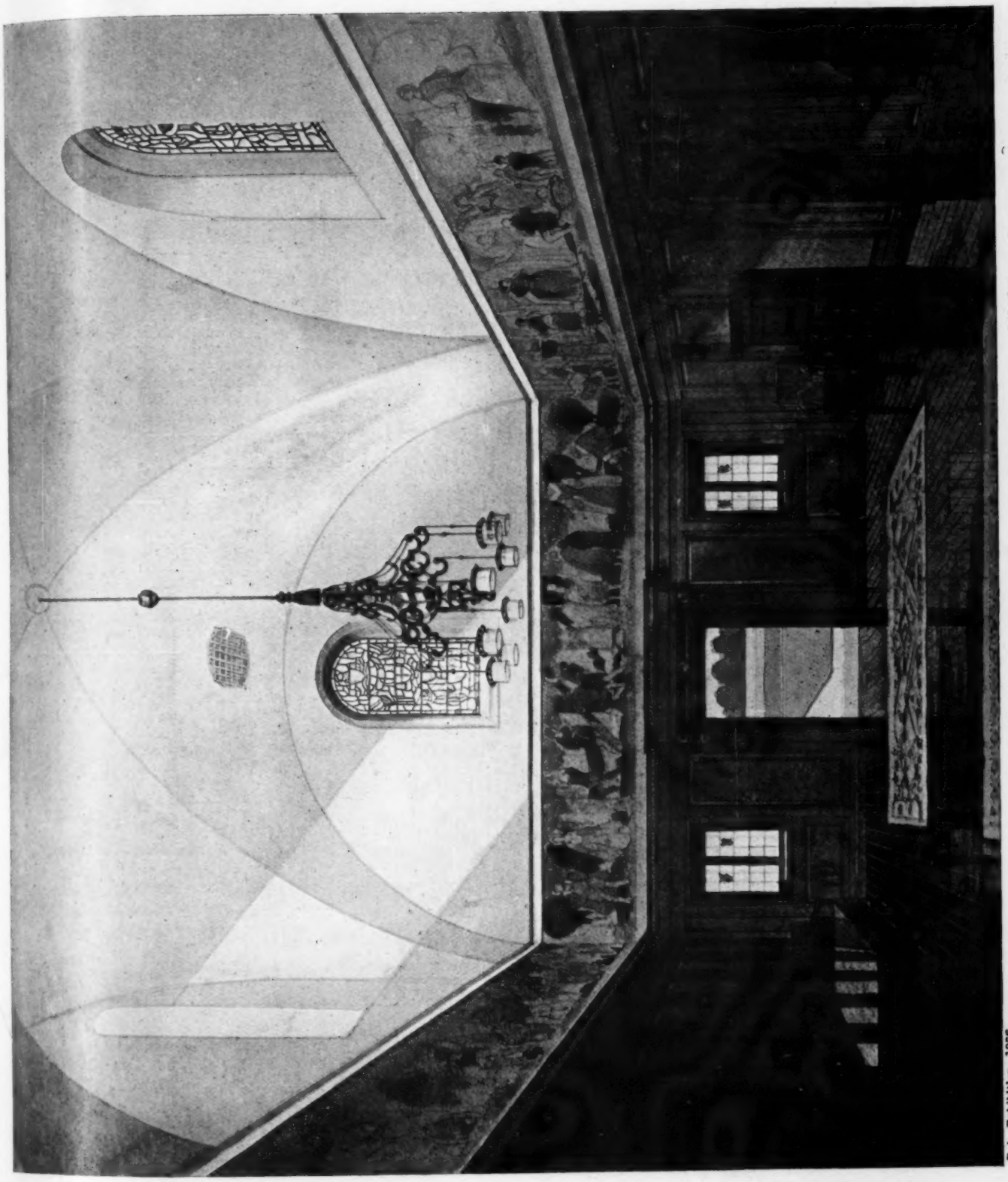
Mr. Cyril A. Farey, A.R.I.B.A., Architect.



R.A. Exhibition, 1926.

**Raffles College, Singapore: Hostel Quadrangle.**

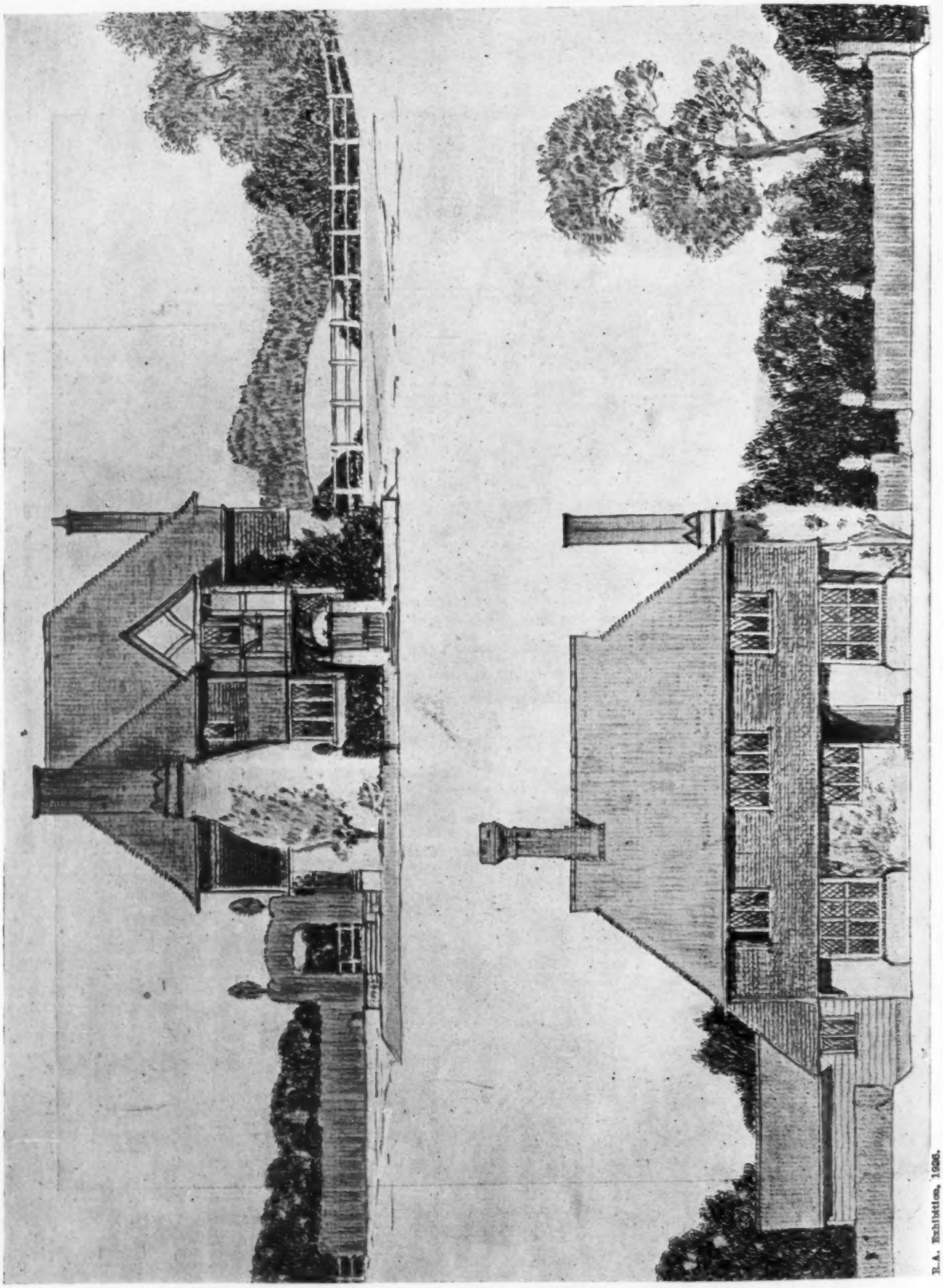
Messrs. C. A. Farey & G. R. Dawbarn, AA.R.I.B.A., Architects.



R.A. Exhibition, 1926.

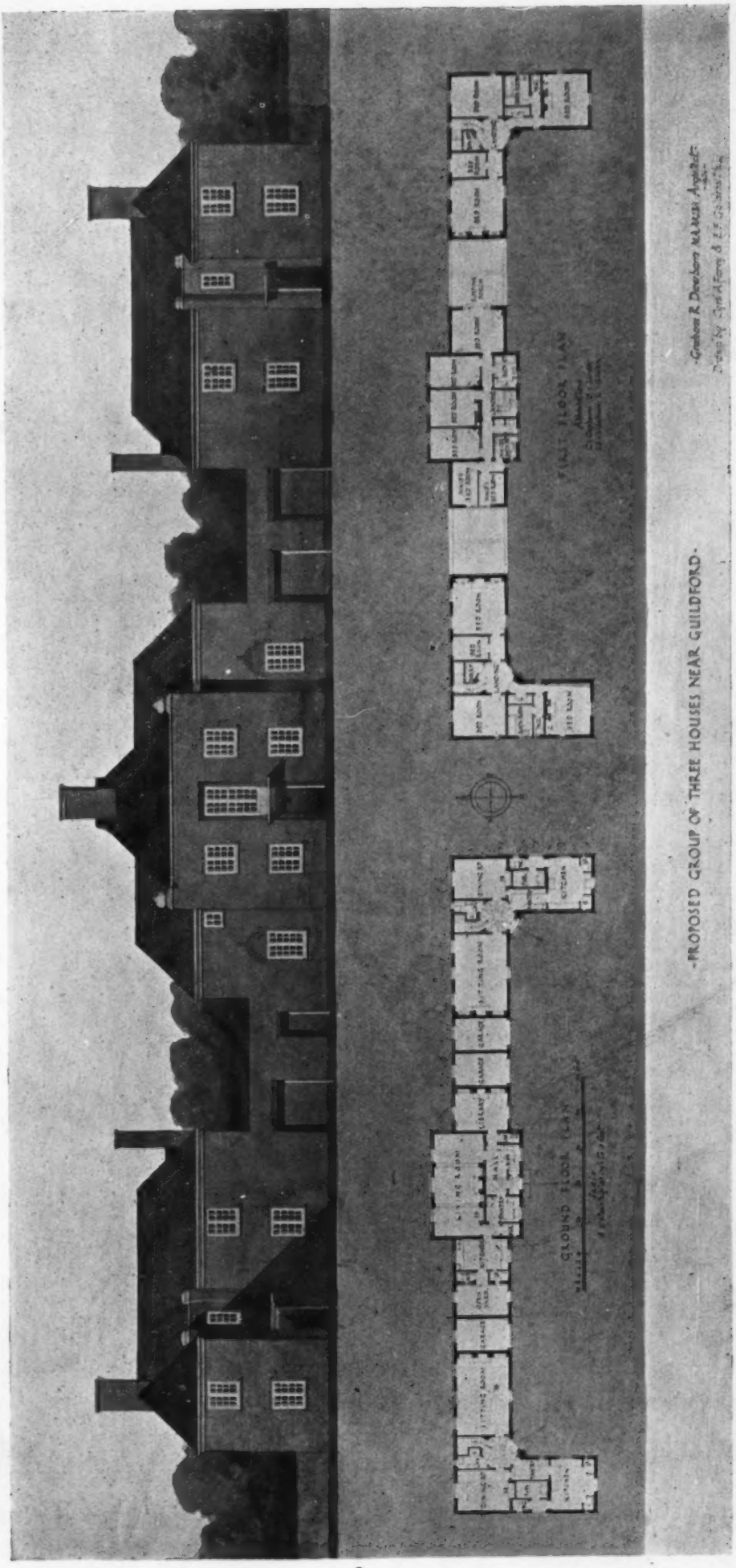
**Foord Almshouses, Rochester: Interior of Hall.**

**Mr. E. Guy Dawber, F.R.I.B.A., Architect.**



A Small House in Sussex. Mr. A. B. Llewellyn Roberts (Messrs. Collouté & Hamp), Architect.

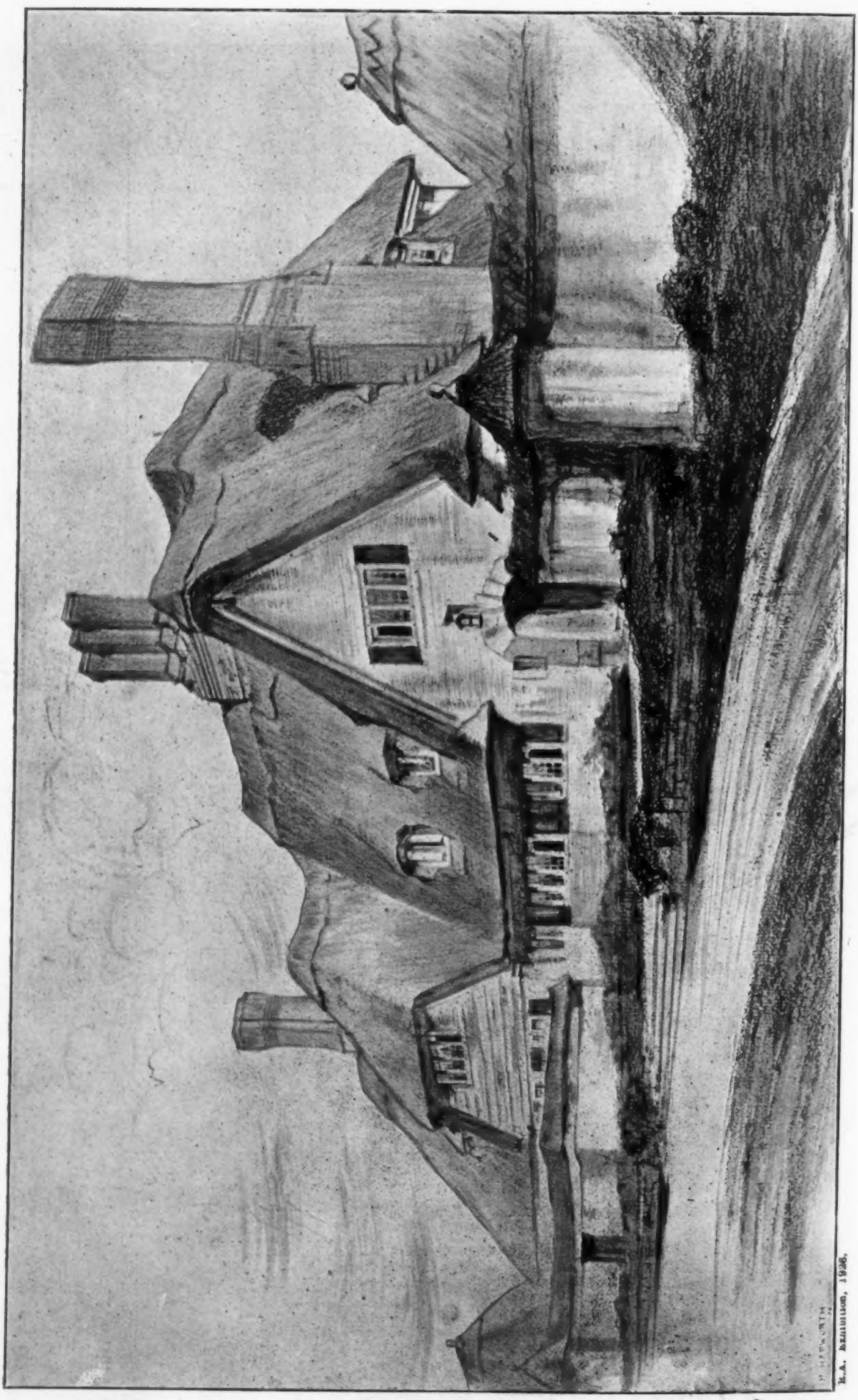
R.A. Exhibition, 1926.




R.A. Exhibition, 1926.

**Proposed Houses near Guildford.**

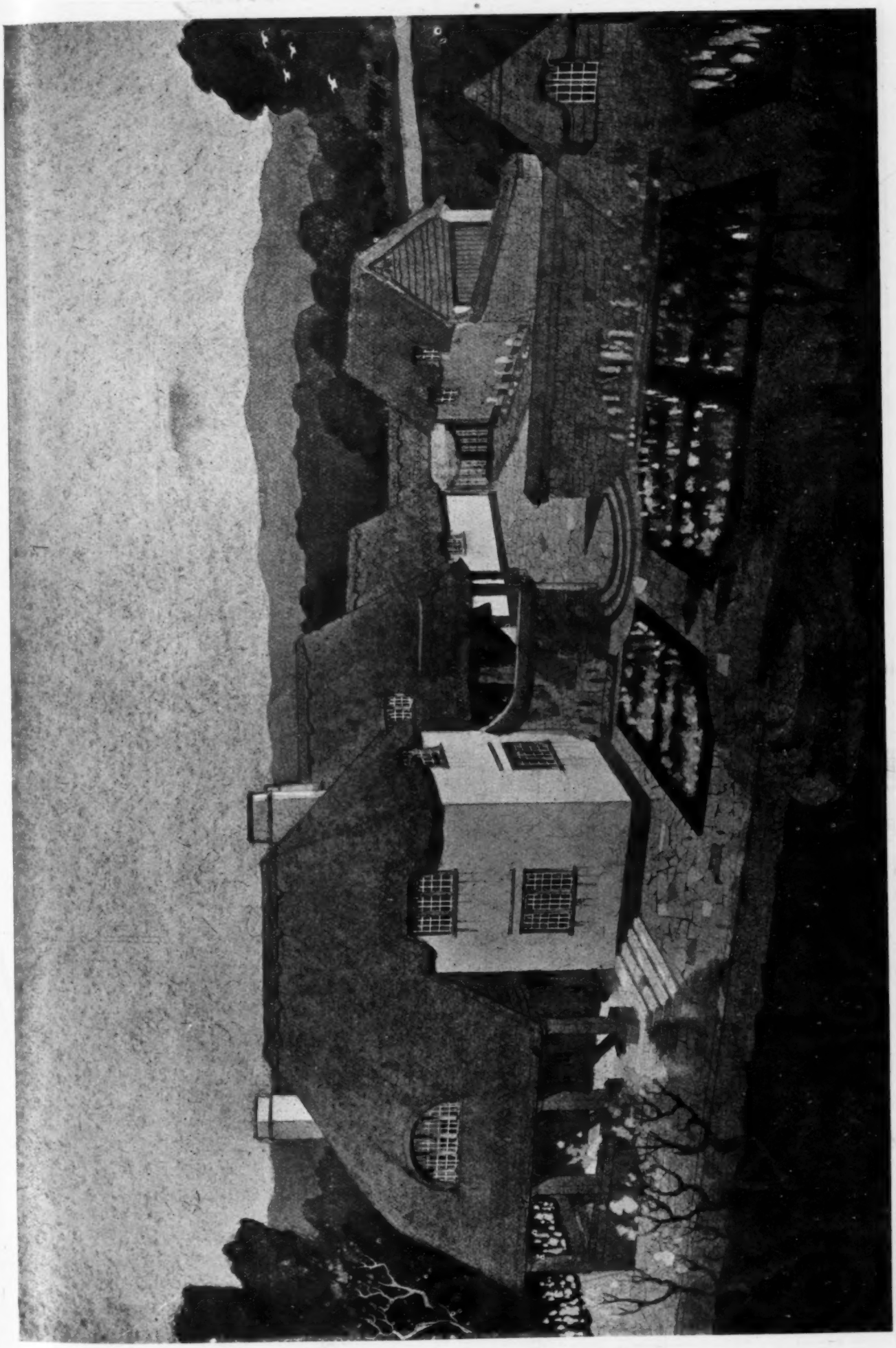
Mr. G. R. Dawbarn, M.A., A.R.I.B.A., Architect.



House near Melton, Leicester.

Mr. P. D. Hepworth, F.R.I.B.A., Architect.

R.A. Exhibition, 1926.



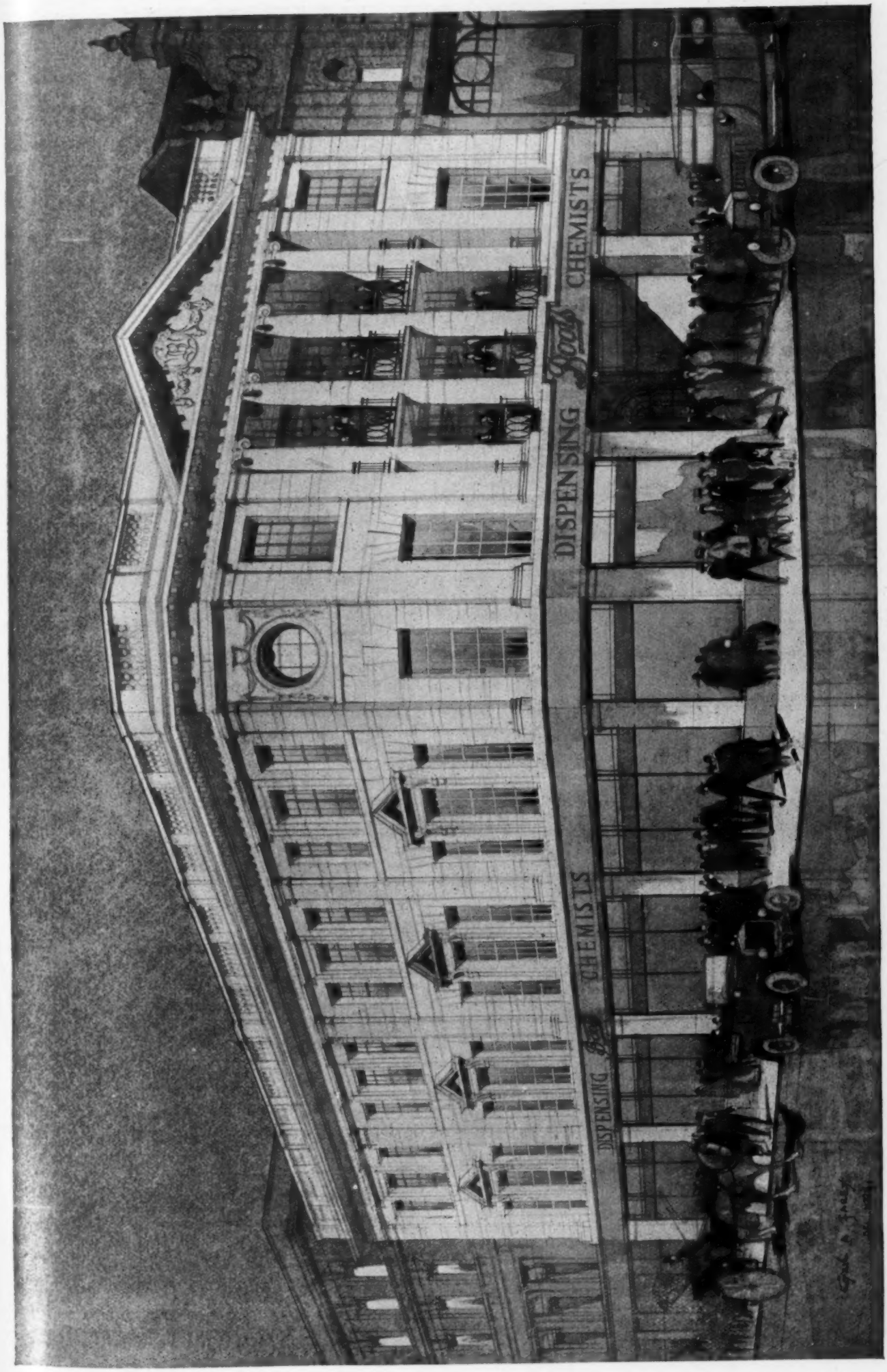
R.A. Exhibition, 1926.

Livermead Close, Torquay.

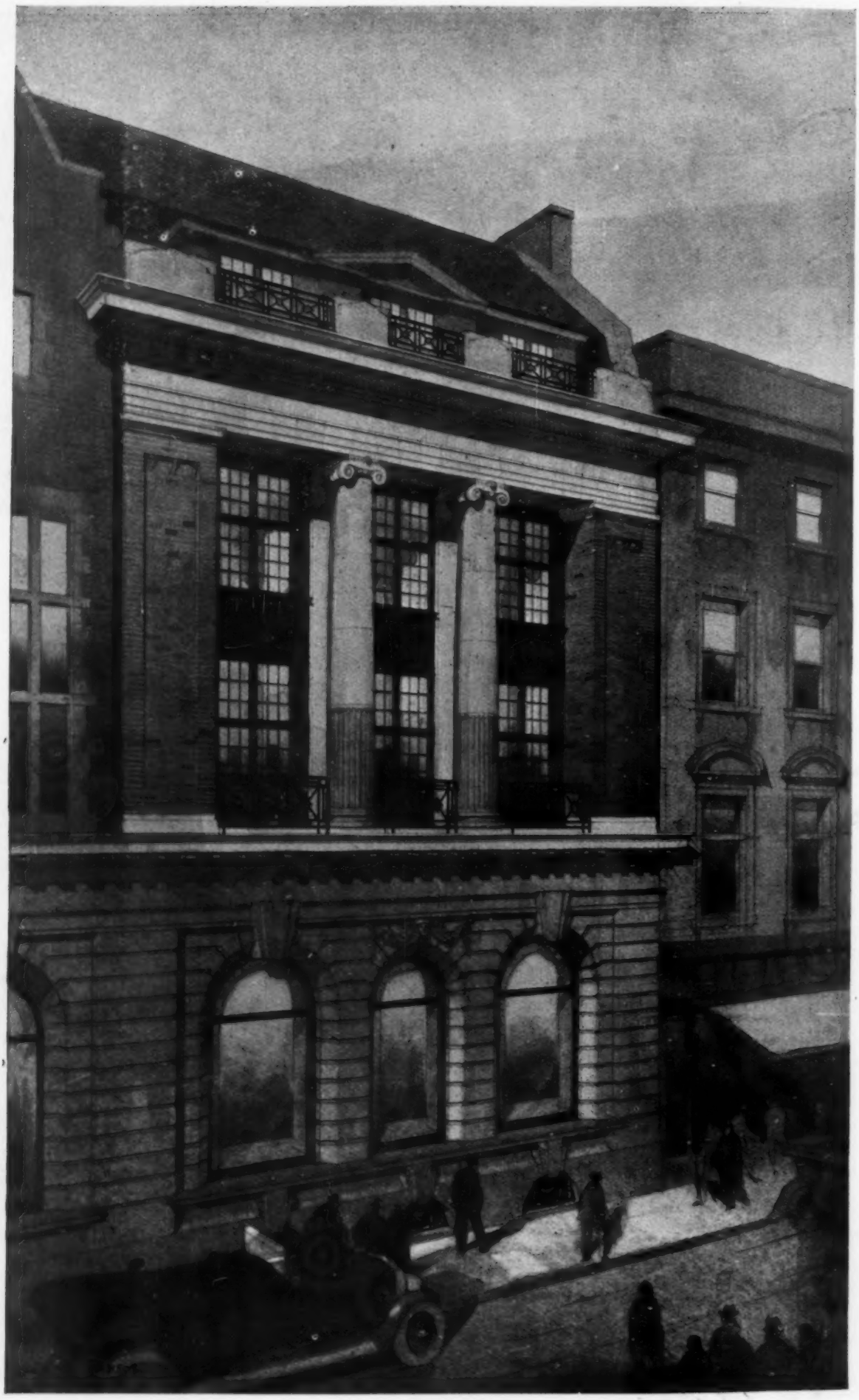
Mr. F. Harrild, M.A., A.R.I.B.A., Architect.

R.A. Exhibition, 1926.

Mr. Charles F. Skipper, F.R.I.B.A., Architect.

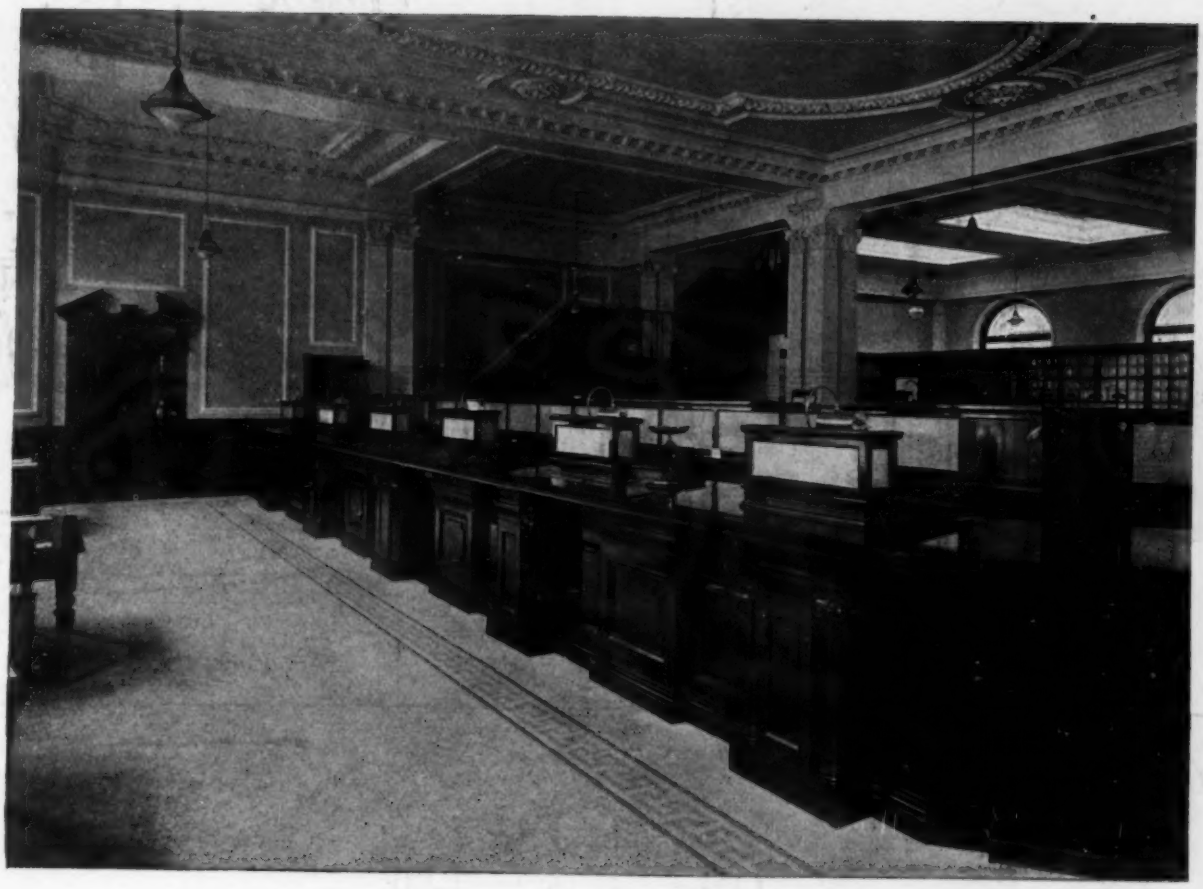



Business Premises, Cheltenham. Messrs. Bromley & Watkins, FF.R.I.B.A., Architects.



**Extension of Lloyds Bank, Exeter.**

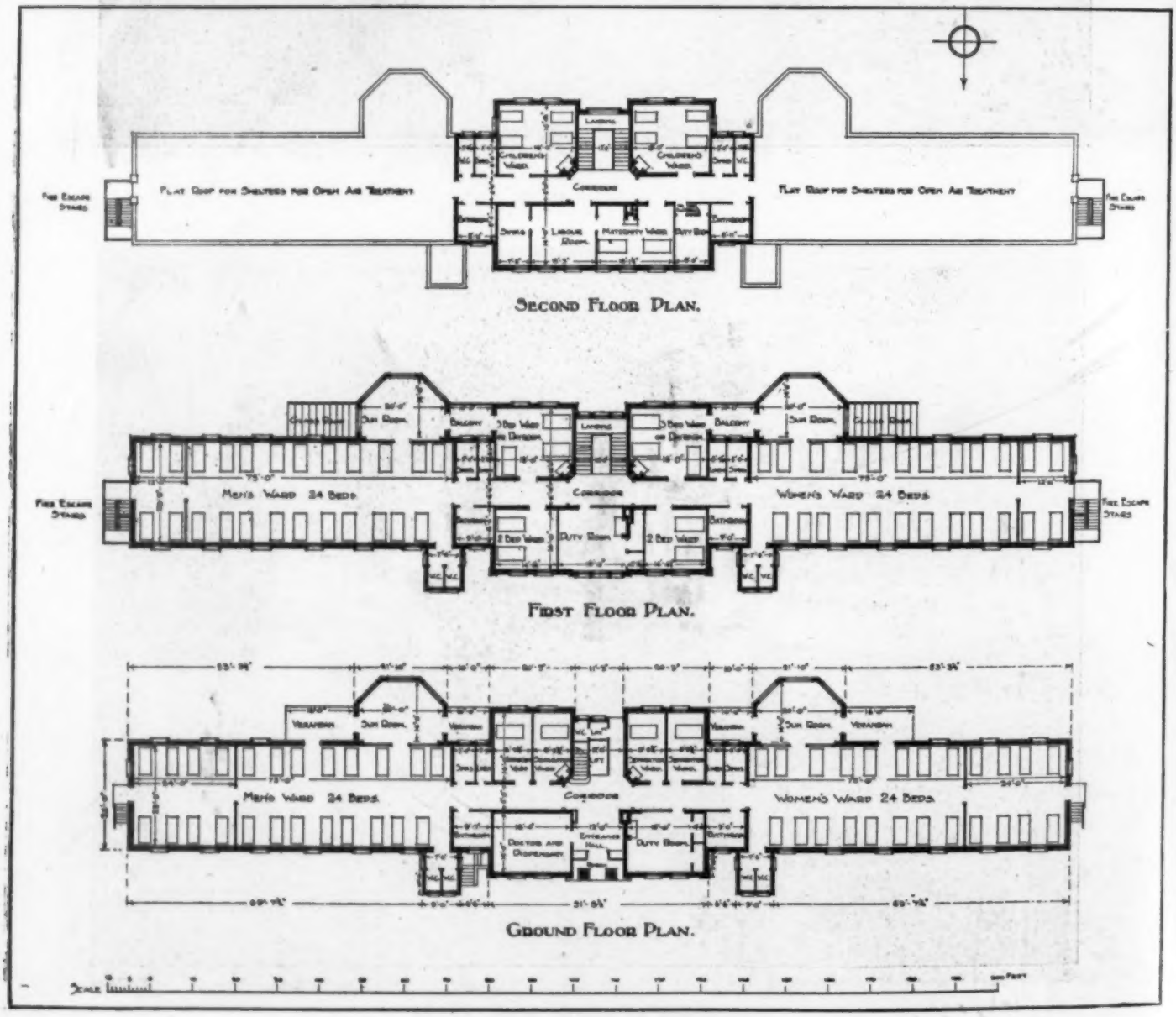
Mr. J. Archibald Lucas, F.S.I., F.R.I.B.A., Architect.



**Extension of Lloyds Bank, Exeter.**

Mr. J. Archibald Lucas, F.S.I., F.R.I.B.A., Architect.

South Front of Infirmary.




**New Infirmary, Chelmsford.**

Messrs. Tooley & Foster, FF.R.I.B.A., Architects.

Interior of one of the Main Wards (Men's).

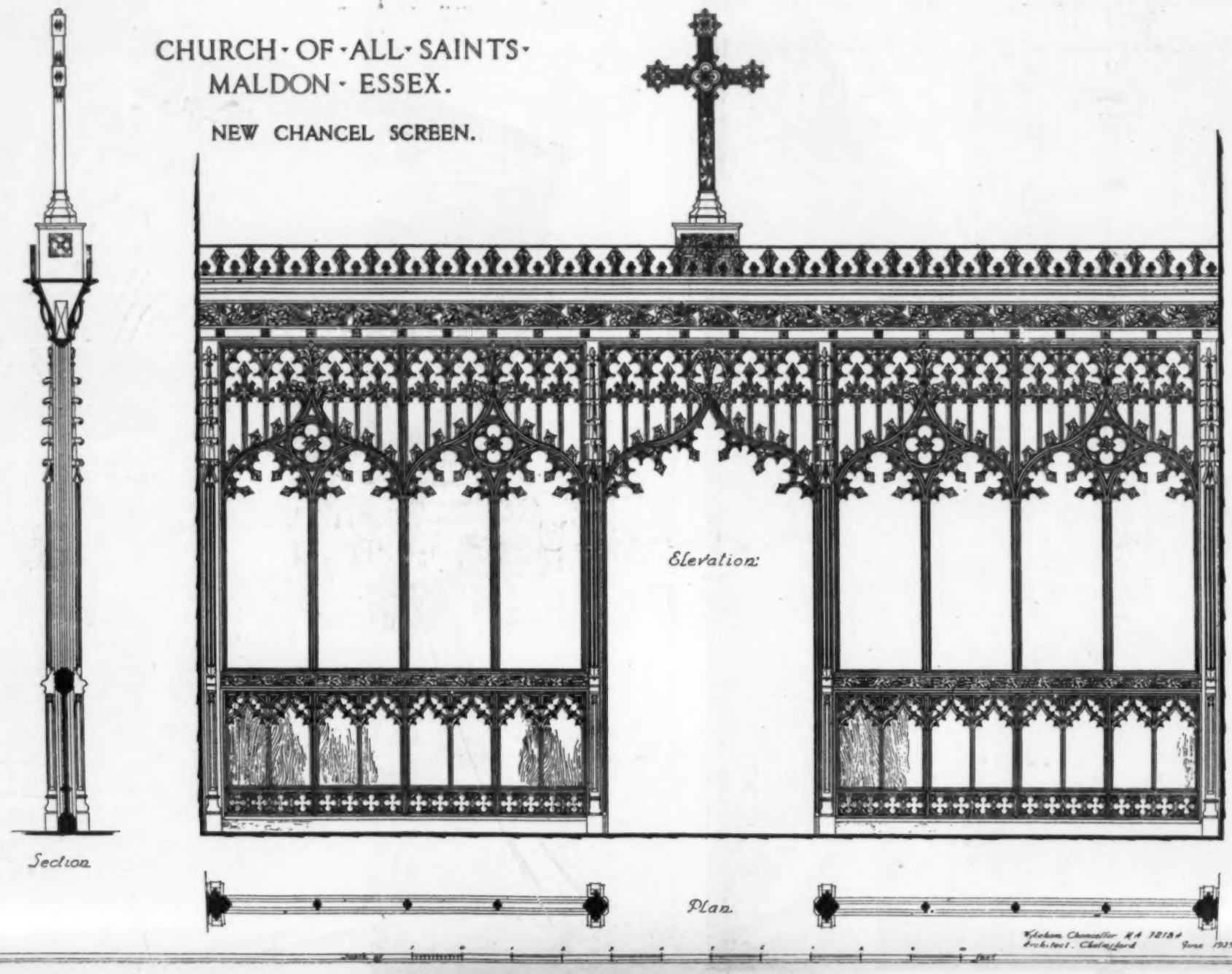
Nurses' Home from South.

**New Infirmary, Chelmsford.**

Messrs. Tooley & Foster, FF.R.I.B.A., Architects.

CHURCH · OF · ALL · SAINTS ·
MALDON · ESSEX.

NEW CHANCEL SCREEN.




Mr. Wykeham Chancellor, M.A., F.R.I.B.A., Architect.

# STEEL CONSTRUCTION IN AMERICA

By F. E. BENNETT, A.R.I.B.A.

### Steel.

Steel is the index of the commercial activity of modern countries, and particularly of the activity of America. It is the medium through which all their active attainments are possible and without which the rapid advancement since the Industrial Revolution could never have been made. It is the only substance that can be hardened to make all the necessities; to make woodwork, machinery, all means of transportation, agricultural implements, steam engines, and—by reason of its magnetic properties—all electrical devices and developments depend upon it. As the past growth of America has depended so much on steel, so the future—full of so many possibilities—seems more and more bound to it and dependent upon it. On every hand this newly developed metal is superseding the old materials of long tradition.

The production of rolled steel as a material substituting iron and suitable for buildings, bridges and other structures, was first made possible about forty years ago with the introduction of the Bessemer process. Iron as a material was used by the Hebrews, Assyrians, Phœnicians, Greeks, and by the Romans, who found it being used in Britain at the time of Cæsar's invasion. From those times onwards iron was produced by heating the ore with charcoal in small forges. This process continued until 1400, when the first blast furnace in Europe was constructed, which enabled sufficiently large quantities to be made for use as castings. In 1850 Bessemer came forward with a converter, and in 1861 Siemens built the first gas-burning furnace for the open-hearth process. By 1892 both the processes had practically eliminated the wrought-iron sections for building work and replaced them by rolled sections. The rolled sections could be obtained owing to the large ingots now cast.

As the processes developed many outward and visible changes were taking place in the large towns of the world. In the American cities the sky-lines began to change. The use of structural steel was being understood, and buildings of greater height were being constructed. In the year 1892 a quarter of a million tons of manufactured structural steel is recorded as the consumption of the U.S.A., but by the year 1912 the consumption increased to six times as much, namely, one million and a half tons.

### Erection of Steelwork.

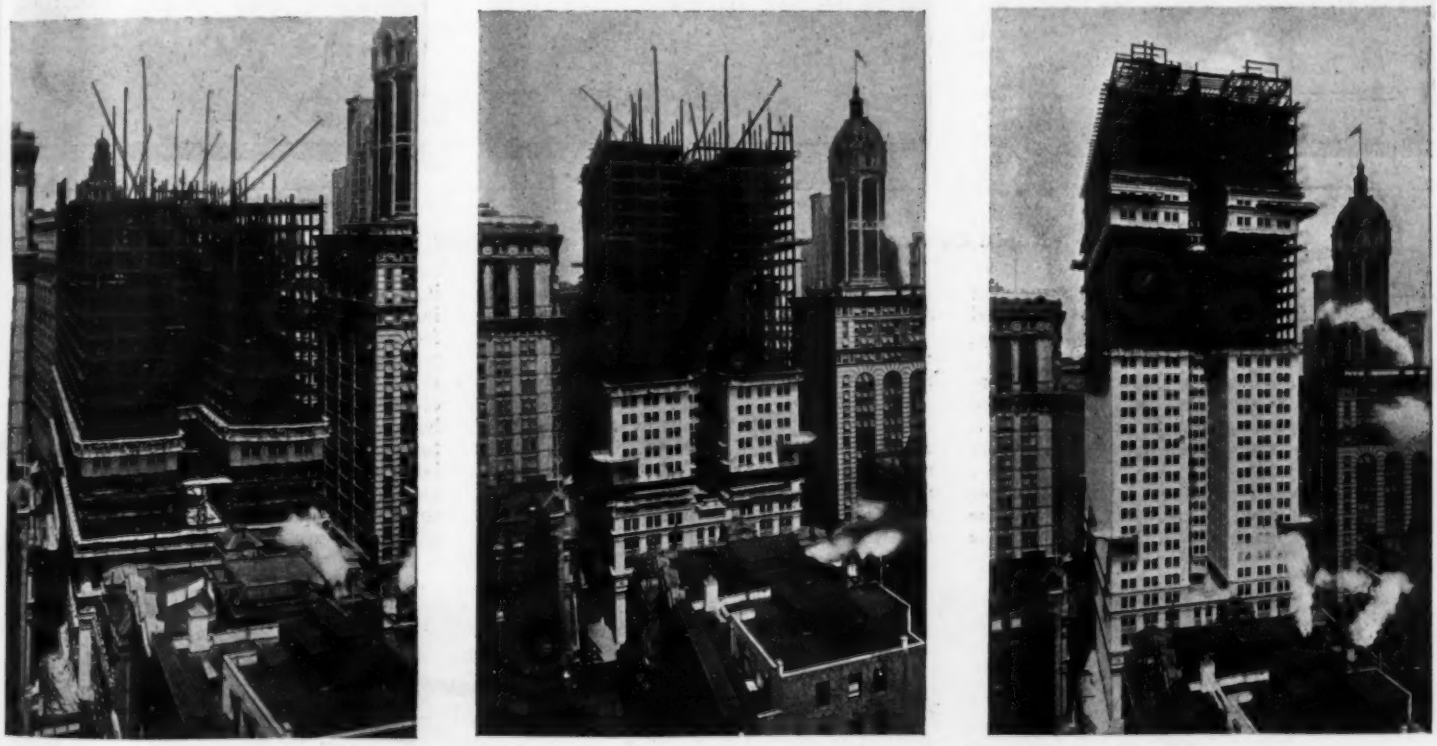
According to Mr. R. B. Thomas, who is the executive secretary of the "Iron League" of New York, the method of erection of structural steel on a building job in that city is based upon a close co-operation between the members of the steel contractor's staff and between the steel contractor and the other contractors. It is rare, he says, for the steel contractor to start work until the foundation workers are finished, because they only get in one another's way and no time is gained. Before the latter actually go, the former stacks his steel work on the site and gets the foundation man to hoist his (the steel man's) derrick into position. When in, he lifts the derrick out for the foundation man.

When the work is in full swing this is what happens. If, say, the erection derrick is on the sixth floor, rivets meanwhile are being punched in on the fourth and fifth floors. On the third floor (if the job is going well) the carpenters will be placing the shuttering for the concrete floor; the second and first floors will already have their concrete in and the bricklayers will be starting on the outside walls. The steel workers themselves will be carefully divided up. Each derrick has six men, composed of a "raising gang" and a "pusher" (minor foreman). Two men connect the pieces together with field bolts; one, a bellman, signals to the men doing the hoisting in the basement; one man turns the derrick and two are "hookers-on" or handy men. A few men —"bolters-up"—follow the pieces as they are being set, putting in the lighter pieces of iron and, as their name implies, bolting. They are followed by riveters in gangs of four, one to heat, one to pass, one to rivet, and one more, a "bucker-up." The "plumber-up" checks the stanchions and sees the work is set aright. In addition to these workers there are the foreman-in-charge, time-keepers, and handy men to clean up.

Mr. Thomas gives some points which make for economy. A great number of economies can be effected in the manufacturing, he says: Excessive handling on the job runs up expenses. Supplies should arrive in shipments which are roughly the two floors set by the derrick in one position. The manufacturing machinery should be set so that all pieces of the same section are made together, and then they should be sorted out in the shop, especially where there is an overhead crane. This will be cheaper than sorting on the site. The steel should be transported so that the first lot to arrive is the first lot required, and the erection of it can be started immediately. The first load of each shipment will naturally be the stanchions, then the main beams, and then the filling-in beams. Stuff that is not wanted at once keeps getting in the way and has to be moved time and again.

While it is cheaper to use only one derrick instead of two, one only may be too large and unwieldy and slow up the work. Roughly, operations up to 100 ft. square are set with one derrick in New York. With two derricks more supervision is required. The supervising staff can be kept down if the derricks, where there are several, are arranged to start and finish work together.

Working the erection with a uniform method has another advantage beside the obvious ones. It helps to keep the building plumb and in shape. If the arrangements are ragged, so that work is not carried on on the same level, rivets and bolts are dropped on the men below. Men work better if they are kept to their specified duties and not changed about. Steel, lying about and not wanted, has a great tendency to cause injuries to feet and fingers and incur compensations. If points like these are borne in mind, operations should work well and smoothly, the various trades will follow along in good order, there are no "shut-downs" or "lay offs," and there is no expense of hiring and breaking-in new gangs of bricklayers. The whole building schedule is a matter of careful planning, and to neglect it means the greatest waste. The

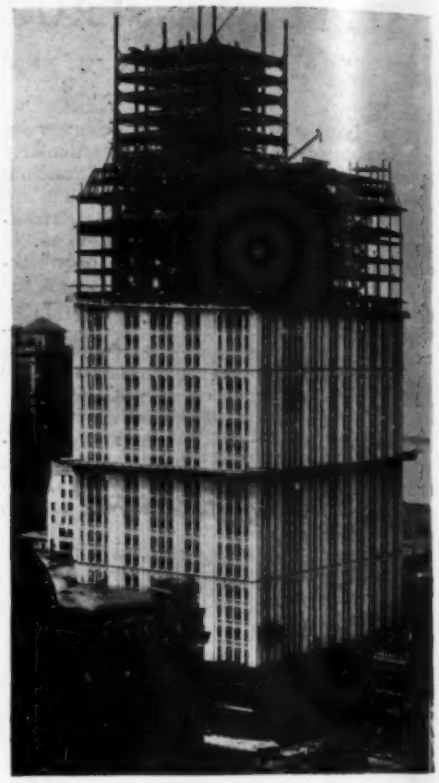


June, 1914. July, 1914. August, 1914.

**Rapid Construction of the Equitable Building, New York.**

MARCH, 1912.

APRIL, 1912.



MAY, 1912.

**Rapid Construction of the Woolworth Building, New York.**

builder can force the hand of the steel man by contracting with him for what are called in New York "tier payments," which may, for instance, be this:—

35 per cent of contract price when up to street level; 25 per cent. of contract price when half the rest is up; 25 per cent. of contract price on completion; 15 per cent. within thirty days.

Mr. Thomas concludes by saying the whole work depends upon co-operation, first by the architect in his planning; second, by the general contractor; and third, by the sub-contractors.

The illustrations show examples of speedy work on three important buildings in the States.

**Rivets.**

One is often fascinated by the daring of riveters balancing themselves high up, almost in mid-air, throwing and catching red-hot rivets with a fine dexterity. The rivet is a small and insignificant thing compared to the towering skyscraper, but it is a vital part of it, and the cost is anything but small and insignificant. Of the 3,000,000 tons of manufactured steel which the industry is capable of producing annually in U.S.A., 100,000 tons are represented by the rivets alone, or a total of 400,000,000 rivets of an average weight of half-a-pound each. The cost of these rivets to locate, punch, assemble, heat and drive home represents an outlay of 5d. to 10d. each, and to put these 400,000,000 into their full function entails a cost totalling anywhere from £8,000,000 to £16,000,000.

**The Woolworth Building, New York. JUNE, 1912.**

### Stress Unit of 18,000 lb.

The steel industry has been considerably agitated of recent years over the legal unit stress of 16,000 lb., which it was desired to increase to 18,000. It has been pointed out that the change would produce a reduction of 12½ per cent. in the amount of material needed to meet any specific design. If the erected cost be taken at £20 a ton, a saving of £20,000 would not be exceptional in many structures where the new stress is followed, bearing in mind what a large proportion of the total cost is for the steel:—

15 per cent. of an office building or hotel.
25 per cent. of a store or warehouse building.
50 per cent. in manufacturing plant.

The greater stress unit has been adopted by many of the large cities and several of the States.

### Classification.

For the purpose of establishing uniform practice in the steel industry between the mills and the public which buys the product, the American Institute of Steel Construction has issued a Code of Standard Practice. It is out of place here to give any description of the code, but it is worth noting the method of classification of the various products and what some of those products are. Here is the list:—

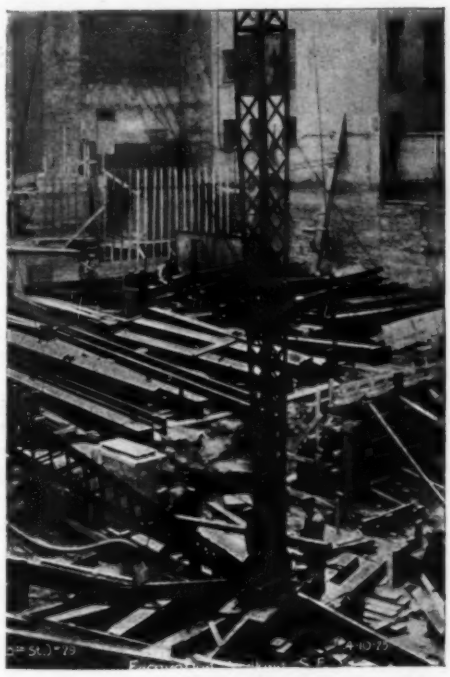
CLASS "A": STRUCTURAL STEEL AND IRON.—Anchors; bases; bearing plates; brackets; rolled channels; channels and angles for suspended ceilings; stanchions; girders; hangers; lintels; marquise; rivets and bolts.

CLASS "B": ORNAMENTAL STEEL AND IRON.—Bronze and brass work (except hardware fittings); balconies; cast-iron cornices; lift fronts and enclosures; grilles and gratings; iron stove fronts; lamp standards and brackets; marquise; brackets; inside stairs; outside stairs; safety treads; railings; sills and thresholds; spiral stairs; window cills; wire work.

CLASS "C": STEEL FLOOR JOISTS.—Steel joists for floor or roof panels; bracing and bridging for floor joists; stirrups and hangers for ditto; ties for floor joists.

CLASS "D": MISCELLANEOUS STEEL AND IRON.—Area gratings; C.I. covers; C.I. R.W. receivers; C.I. shoes; cleanouts; coal chutes; column guards; door frames and backs; foot scrapers; furnace dampers; flag pole; ladders; pin rails; pavement doors; sills; curb angles; special bolts; stocks; platforms; chimney caps; thimbles; wall plate anchors; wheel guards; wire screens.

These classified lists show that structural steel does not necessarily apply to the sky-scraper alone. Nor is it confined to industrial and business construction. It is forecasted that the material will be used very extensively in residences and other small buildings within a comparatively short time. The felling of trees is being restricted and lumber is getting dearer, so that steel is naturally being considered as a substitute. Steel joists are becoming popular for ground floors of residences and flat buildings; the use of metal lathing is general, and it is considered probable that residential construction may be steel frame throughout, with the minor finishes left in wood.



THE FOUNDATIONS.

### Earthquakes.

While it is popularly supposed in America that the violent San Francisco earthquake and others like it were merely unique phenomena, scientists are stated to think differently. It is known by them that since the first European settlers came, the North American continent has been shaken by from two to twenty-nine shocks a year. And they know that five of these shocks were major disturbances. In view of this it is very important to know which kind of buildings offer most resistance to earthquakes. The American Institute of Steel Construction has been collecting all the available information in stricken cities on different types of buildings which have survived the shocks. All the evidence goes to show the steel-frame building offers the greatest resistance and is most likely to stand up. It is not considered possible to make a building absolutely proof against earthquakes, but a steel frame designed with extra strength can resist shocks as violent as those which occurred at Santa Barbara. It is expected that further research will make it possible to establish a more precise method of constructing such buildings.

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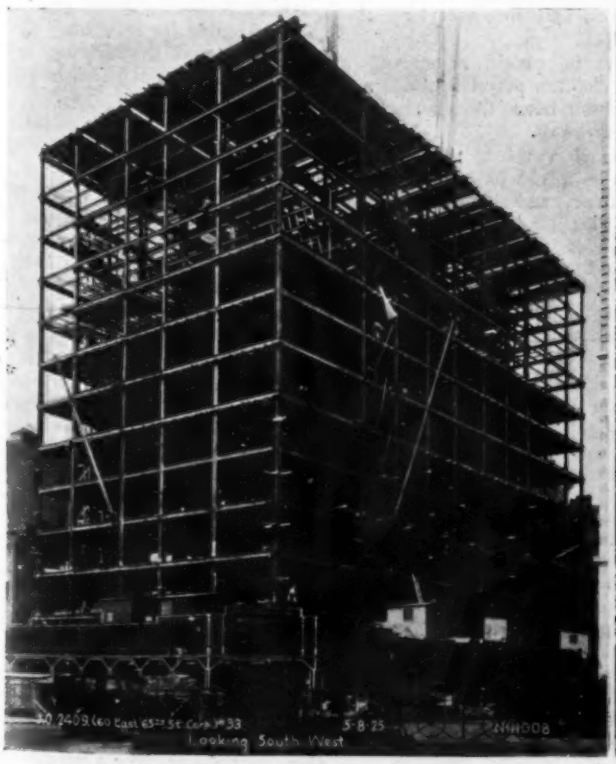
### Sewage Scheme, Swinton.

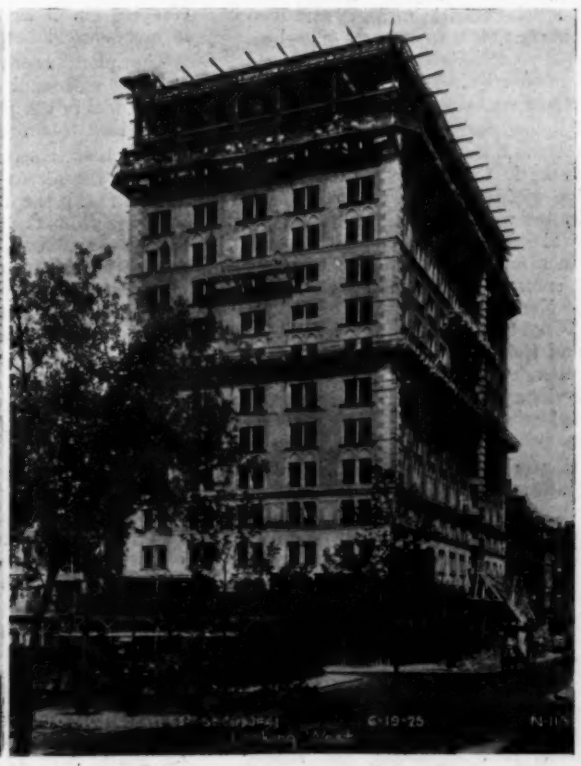
Swinton U.D.C. propose to spend £25,000 on the replacement of their old out-of-date sewage disposal works with a modern scheme.

### The Housing Subsidy.

In the course of a recent statement Mr. R. Coppock, general secretary of the National Federation of Building Trades Operatives, said: "The statement of the Minister of Health that the present subsidy shall run until October 1, 1927, and that all houses finished in that period will rank for subsidy, and that October 1, 1928, is the period prescribed for Scotland, presupposes a radical change in subsidy after those dates. To stop State assistance or even to reduce it for the next four years would be a colossal blunder, as it would put out of motion the great machine which is producing houses at an ever-increasing rate."




DEVELOPMENT AFTER FOUR WEEKS.




DEVELOPMENT AFTER SIX MORE WEEKS.

**Rapid Construction of Apartment House, 60, East 65th Street, New York.**

# SPECIFICATIONS.—XXXI

BY H. V. MILNES EMERSON, A.R.I.B.A.

**GAS FITTER** (*continued*).

For other buildings the specification for housing schemes can be adopted in principal. The following items can be added if required.

*Item.*

381. DIAGRAMS.—The contractor shall carry out the gas installation as shown on drawing No. . . . or

The contractor shall, before commencing this work, submit to the architect for approval a diagram showing the proposed arrangement of all piping and valves.

382. SYPHON BOX.—Provide and fix . . . gallon cast-iron syphon box with sockets for pipes, with enamelled iron label marked "Gas Syphon."

383. STOP COCKS.—Provide and fix where directed No. . . . stop cocks, with square heads and loose keys, brass unions to pipes, and with enamelled iron labels marked "Gas stop cock to . . ." Stop cocks in ground to have small iron chambers bedded in concrete.

384. GAS GOVERNORS.—Provide and fix where directed . . . or other approved self-acting gas governors (state number and size) with lock and key, and fitted with iron enamelled labels, marked "Gas Governor."

385. FITTINGS.—Provide the p.c. sum of £ . . . for gas fittings, stoves, gas fires, &c., and add for carriage, profit, and fixing.

Water Heater.—Provide and set where indicated a . . . water heater, and make proper connection to gas and water service, and carry vent pipe to chimney flue, or to external wall.

Make proper connections in incinerator for gas burner, in accordance with the manufacturers' instructions.

*Note.*—All gas heaters, copper and gas fires, should have flues to carry away the fumes.

Points should be provided for gas fires, but the flues should be large enough to allow for a coal fire to be installed. A continuous gas fire is not an economical proposition.

Water-filled pendants should not be used.

386. ACETYLENE GAS.—Acetylene gas is produced from carbide of calcium, a crystalline substance, dark brown-grey in colour. It is manufactured by the fusion of calcium and carbon in a special electric furnace, and contains 62 parts of calcium to 38 parts of carbon. Carbide rapidly deteriorates if exposed to damp, and until required for use should be kept in air-tight containers.

The plant for generating the gas consists of—1, the generators; 2, the washer through which the gas passes; 3, the holder, a small gasometer; 4, the purifier; and 5, the water tank that supplies the water for working the plant. The plant, which is small and compact, should be housed in a lean-to or detached building. No direct communication must be made between the plant house and the main building. Ample light and ventilation should be provided, and the floors and walls should be finished in tiles, cement, jointless flooring, or other impervious material. An open drain must be provided under the generators leading to the sump.

The plant works as follows:—The trays of the generators (each machine contains two or more generators) are filled with calcium carbide; the washer, &c., are filled with water to the required level, and puratylene or heretol is placed in the lower part of the purifier with cotton-wool, horse hair, or felt on top. When water is admitted to the carbide in the generator gas is at once formed, and, passing through the washer, enters the holder. From the holder the gas passes through the purifier into the service pipes. The rise and fall of the holder regulates the supply of water to the generators, thus regulating the supply of gas.

One pound of carbide will produce from 4½ to 5 cubic ft. of gas and an ordinary burner giving about 25 candle-power will consume ½ cub. ft. of gas per hour.

Various designed fittings can be obtained. The burners can be obtained to give a column flame or a small flat flame, and in various sizes, consuming from ¼ to 1 cub. ft. per hour. The pleasing quality and brilliancy of the light obtained makes the use of incandescent mantels unnecessary.

The piping should be selected iron gas-barrel, and where carried underground can be protected in the usual manner, or the pipes can be galvanised. Brass tubing can be used where exposed. Composition pipes are not recommended, and copper pipes should not be used, as a red precipitate is formed (called copper acetylide) which if struck or heated will explode.

The following internal diameter of pipes should be used:—

| | | | |
|---|---|---|---|
| Up to 10 lights, | ¼ | in. | iron barrel |
| „ 20 „ | ¼ | in. | „ „ |
| „ 50 „ | ⅜ | in. | „ „ |
| „ 100 „ | ½ | in. | „ „ |
| „ 150 „ | ¾ | in. | „ „ |
| „ 200 „ | 1 | in.. | „ „ |

Careful examination should be made to the welding of all tees, angles, &c., and the installation should be tested with a water gauge as specified for coal gas.

Provision should be made for a pit or movable bins for the reception of the sludge or spent carbide.

Acetylene gas with ordinary care is in every way as safe to use as coal gas, and its escape in a room will not cause asphyxiation.

Specify the piping as for coal gas, but with diameters as above table, and provide a p.c. sum for fittings and plant, these to be fixed by the contractor or specialist.

*Item.*

387. PETROL-AIR GAS.—Petrol-air or air gas is a mixture of petrol vapour and air ranging from 95 per cent. petrol vapour and 5 per cent. air to 98½ per cent. petrol vapour to 1½ per cent. of air.

Petrol air gas will not explode unless the proportion of petrol vapour is between 2.2 and 3.5 per cent. The risk of explosion from escaping gas is small, and, like acetylene, it is non-asphyxiating.

The plant should be placed in an outbuilding with a pit for the petrol containers, and if within the power house the pit should be drained to a soak-away.

The plant consists of (1) the blower, which supplies the air to be mixed with the petrol vapour; (2) the drier, which removes any moisture from the air; (3) the petrol tank; (4) the carburetter, a chamber for the proper mixing of the air and vapour; (5) the holder or container for the storage of the petrol gas; and (6) the driving power, either weights, water motor, electric motor, or hot-air engine.

Plants under 50 lights are usually worked by weights, and over 50 lights by weights or motor. Where weights are employed the method of working is as follows:—The blower is geared to the axle or drum upon which is wound the rope attached to the weight. The weight is suspended at a height according to requirements, and its descent causes the drum of the blower to revolve, and the air drawn into the blower after passing through a water seal is ejected into the holder. The air in the holder contains a certain amount of moisture, which is removed by passing through a drier containing calcium chloride. It then enters the carburetter, where it mixes with the required proportion of petrol and passes direct to the service pipes. The bell of the air holder supplies the required pressure.

A small hot air engine takes the place of the weight in an engine-driven plant, or water power or electric power motors can be used. The hot air engine is worked by means of a petrol gas burner, the supply of gas being drawn from the holder. The engine supplies the required amount of air direct to the carburetter without passing through a water-seal, as in the weight-driven plant, and the drier is usually omitted. The gas, after leaving the carburetter, enters the gas-holder, and is drawn off as required. When the gas is drawn from the holder the engine or weight comes into operation and produces an amount of gas equal to that being consumed. When the holder is full the manufacture of gas automatically ceases. The plant should be so constructed to ensure a constant supply of gas of uniform quality, and should not be affected in any way by the atmosphere, as variations in temperature produce fluctuations in the lighting or heating effect.

If petrol of .725 specific gravity is used in a machine producing a mixture of 98½ per cent. of air and 1½ per cent. of vapour, 1,800 cubic feet of gas can be produced from a gallon of petrol, and with an average spirit of .680 to .700 specific gravity 570 cubic feet of gas is produced, using a mixture of 95 per cent. air and 5 per cent. vapour.

A 5 per cent. mixture contains nearly all, and the 1½ per cent. mixture contains the full amount of air required in combustion. It is, therefore, necessary that the pipes should be of sufficient area to convey the gas with the small pressure obtained from the holder. Each light should be supplied with a pipe not less than ¼ in. diameter for the 5 per cent. mixture and ⅜ in. for the 1½ per cent. mxiture. All the main and branch pipes should have an area equal to the total area of the branches supplied from same. If existing gas pipes are used the mixture must be either rich or the pressure must be increased, otherwise the result wil not be satisfactory.

Petrol gas is well adapted for heating and cooking, and can be used for any purpose for which coal gas is employed except for asphyxiation.

Fittings of various designs are made fitted with upright or inverted burners. Incandescent mantles are used. For inverted burners, bijou mantles are used, giving a 50-60 candle power light. The upright mantles give a light from 60 to 120-candle power, according to size. The average consumption of gas with a 50-candle power mantle is about 6 cubic feet per hour for a 1½ per cent. mixture and 2 cubic feet per hour for a 5 per cent. mixture, and the average cost with petrol at 1s. 3d. per gallon is a penny for 30 to 40 hours.

A 5 to 7 per cent. is called a rich mixture, and is more suitable for heating and cooking than the weak mixture.

Specify the installation as for coal gas, but using larger diameter pipes. The plant and fittings can be specified as p.c. items, and the fixing carried out by the contractor or approved firm.

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## The First Kent Mining Town.

The Ministry of Health has given sanction for the borrowing by the Council of £18,205 for the purchase of two farms comprising 600 acres in the parish of Nonington, near Canterbury. It is proposed to erect on the site the first of the eight new mining towns, indicated by Professor P. Abercrombie and Mr. J. Archibald in their preliminary town-planning survey of the East Kent region. It is estimated that the new town will cost £600,000. In addition to accommodating about 2,000 miners and their families, spaces have been reserved in the plans for schools, churches, recreation grounds, and places of entertainment, and the town will be surrounded by a wide belt of agricultural land. The site is near the Snowdown Colliery, which is one of the enterprises owned by Messrs. Pearson & Dorman Long, Ltd., for the development of which the Government has given a guarantee of £2,000,000 under the Trade Facilities Acts. It is proposed to form a public utility society for the purpose of carrying out the building scheme.

# ARCHITECTS' & BUILDERS' INQUIRY BUREAU

*We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.*

*May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as tightly as possible, or, better still, in typewriting?*—ED.

### Bills of Quantities : Errors in Extension.

[Reply to "Anxious," August 13.]

Sir,—"Anxious" cannot, I think, legally claim to have the mistakes adjusted, as he tendered lump sums, but any fair-minded man or committee would agree.

I remember a case when it was discovered that all the glass in a large building had been lumped together and priced at 8s., but carried out at 8d. per foot super. The Committee paid the difference. In the case in question all the errors should be brought into the bill and the extra paid.

Henry Lovegrove.

Sir,—Before tenders for building works are accepted they should be scrutinised so that such errors as are referred to in the query may be adjusted before the contract is entered into. Apparently in this case they were not discovered till after the contract was made, since it is stated that the work is nearly completed. "Anxious" does not state the nature of the contract, whether it is :—

1. A lump sum non-quantity contract, or
2. A lump sum quantity contract with errors and variation clauses, or
3. A measure and value contract.

In 1 the quantities do not form part of the contract, and no claim can be made for a wrong extension, nor is there any standard method available to adjust the errors. The work must be satisfactorily completed for the lump sum named.

In 2, if the clauses are such as 12A and 13 of the R.I.B.A. form of contract, then errors in quantities can be rectified, but there is no provision for the rectification of the contractors' unit prices or calculations; and, in general, it may be stated that no provision is made in a building contract when once entered into for any errors in the extensions—whether they are against the contractor's interests or in his interests; nor is there any standard method of adjustment as suggested, for that, in effect, would set aside the formal contract.

In 3 no difficulty arises, for the bills of quantities in this case are merely schedules of prices on which the work done is to be paid for as measured and valued under the said prices, and the errors in extensions would not count.

Quantities.

Sir,—There is no "standard method" for adjusting errors of the type named by "Anxious." The usual method is, after receipt of tenders, to send for the quantities of the lowest tenderer or the one likely to be accepted for the work, and to check the extensions and, incidentally, note that rates are consistently reasonable. The difference (if any) between the corrected total and the amount of tender is usually adjusted by a percentage on or off the rates in the quantities, and such a method appears the fairest for all parties. "Anxious" cannot legitimately claim the price he really required. The price that he required is the amount of his tender, and his contract doubtless provided that any variations should be adjusted at the rates in his quantities. If his quantities were not checked by the architect or surveyor and his attention was not drawn to his errors of extension, there appears to have been laxity—either wilful or accidental—on the part of the architect and surveyor.

Unfortunately for builders, at the present time there are many posing as quantity surveyors who have but a very elementary knowledge of the subject or the routine involved.

Whilst "Anxious," in my opinion, has no legitimate claim for adjustment of his errors of extension, he might have a claim in equity, which, properly presented, might receive consideration. Such a claim might be based if after correction the total was less than that of the next tenderer; if the corrected total was more, then the unfairness of such a claim would be apparent.

The point raised by "Anxious" is somewhat interesting, and I should like to advise him personally if (with the Editor's consent) any communication addressed to me c/o Editor, could be forwarded to me.

F. S. I.

### Bricks.

Sir,—Will you be good enough to inform me where I can buy hydraulic pressed unburnt bricks, and what is the price per 1,000 ?

What is the breaking strain required for an English burnt brick ?

What is the best kind of English burnt brick ?

What is the price for the best kind of firebrick made of fireclay or other material, to stand a very high degree of heat; and what heat will they stand ?

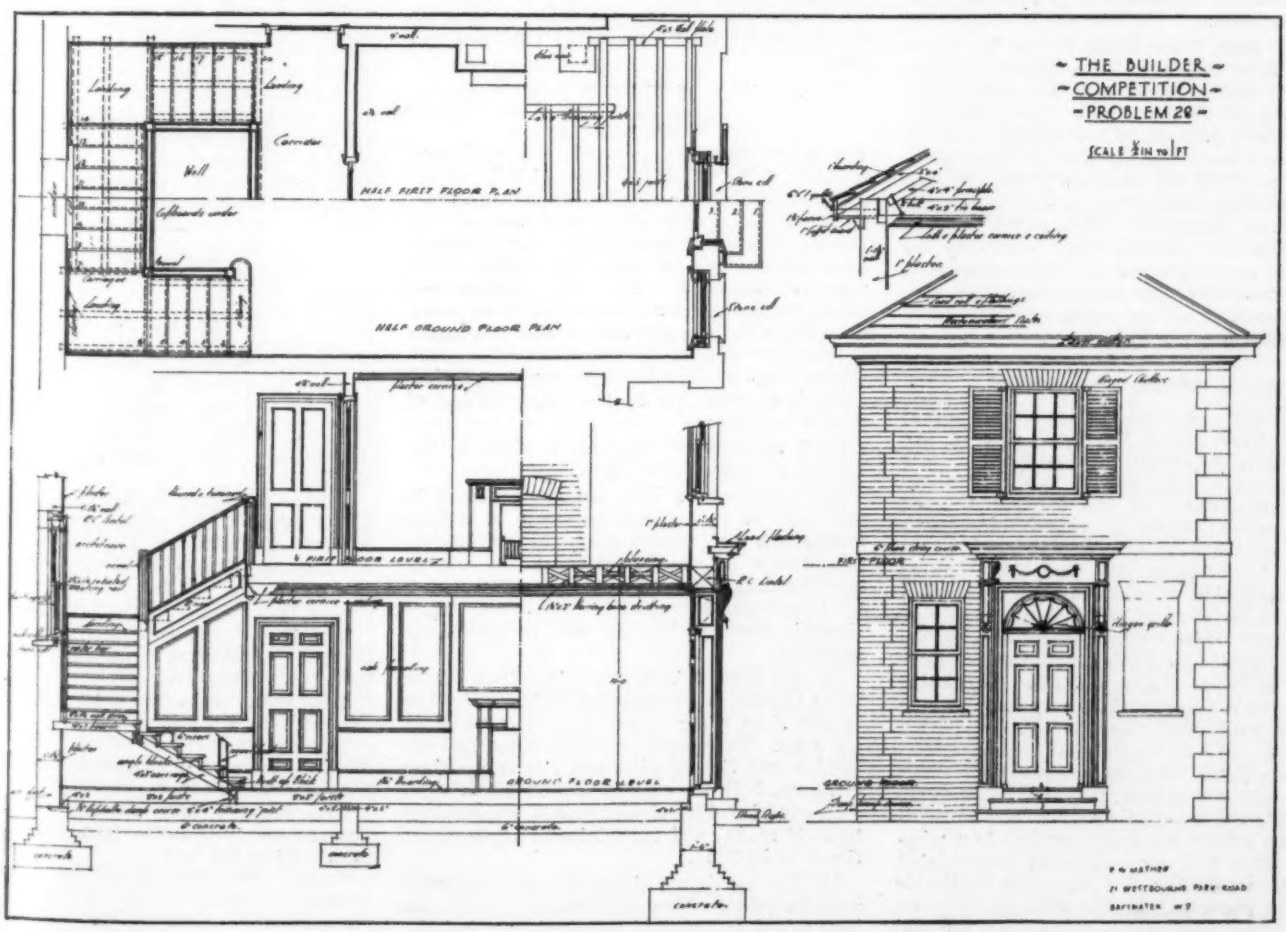
Bournemouth.

## THE "BUILDER" CONSTRUCTIONAL PROBLEM COMPETITION

### PROBLEM No. 28.

The winner this week is Mr. E. W. Mather, to whom the prize of £1 has been awarded.

The damp course under sleeper and front wall has been omitted. One 4 in. by 3 in. plate on the sleeper wall is sufficient. More sleeper walls and smaller ground floor joists could be used. Herring-bone strutting, in addition to pugging boards, is not required. The 4 in. by 3 in. wall plate on plate will not go into walls at ends, as shown.




**Winning Design, Problem 28.** By Mr. E. W. Mather.

# THE BUILDING TRADE

## THE PRICES OF BUILDING MATERIALS

**Fifth Interim Report of the Inter-Departmental Committee.**

THE Inter-Departmental Committee, with Major Hills, M.P., as chairman, which was appointed to survey the prices of building materials, has presented to the Minister of Health and the President of the Board of Trade its fifth interim report, dealing with the price of light castings. The report is issued as a Parliamentary paper [Cmd. 2719], 4d. net.

The committee reports that during negotiations which took place early in 1924 the manufacturers and suppliers of building materials gave a pledge to Mr. Wheatley, then Minister of Health, that they would adhere to the prices prevailing at January, 1924, except in so far as some variation was rendered necessary by any fluctuation in the cost of wages, fuel, and raw material, and he in his turn agreed that the prices prevailing at that date should be taken as a fair standard, subject to special consideration of cases where goods were proved to have been sold at that time at a loss for special reasons. Mr. Chamberlain and Sir Philip Cunliffe-Lister have accepted as a guiding principle the pledge given by Mr. Wheatley, and the committee has been guided by this statement of Ministers' intentions.

The starting point of the present inquiry was the increase made by the National Light Castings Association on February 10th, 1925, ranging from 2½ per cent. to 10 per cent. in the price of certain goods manufactured by them, which included the majority of those required for working-class dwellings. The committee agreed with the National Light Castings Association that an independent firm of chartered accountants should be appointed to investigate the cost of production of light castings, having access to all books and documents which they might consider necessary, and that the investigation should be limited to articles required for housing schemes.

Messrs. Price, Waterhouse & Co. have now reported after a detailed investigation, and the committee has conferred with the accountants and questioned them at length. The committee, after careful consideration, is of opinion "that the investigation has not shown that an undue profit is being made by the members of the National Light Castings Association as far as housing schemes are concerned." It is added that the accountants were granted every facility by the chairman and members of the association, whose works they visited, and that they were given perusal of all the books and documents they required.

### Special Housing Scheme Prices.

The Report proceeds: "On the basis of ordinary trade prices the total cost of the light castings utilised in a normal working-class house is about £22, and of this sum about 28s. is attributable to the increase referred to. Where the special housing scheme prices referred to below operate the increase would amount to between 16s. and 17s. During our investigation a point has emerged which we regard as of considerable importance and to which we desire to draw attention. Special prices are quoted for goods supplied by members of the National Light Castings Association for housing schemes, and these prices compare advantageously with those quoted to ordinary customers. We are informed that these special prices apply not only to schemes undertaken by the local authorities, but also to all types of housing schemes, whether by local authorities or by private enterprise, subject to a minimum scheme of 12 houses in sparsely populated districts. While the full discounts applicable to goods purchased in the ordinary way do not apply to these special prices, they are still subject to a discount of 2½ per cent. for cash. It seems clear, however, from inquiries we have made that in many quarters the existence of these special prices is by no means sufficiently appreciated, and we desire to draw the attention of local authorities and others interested to the matter in order that those who are carrying out housing schemes may secure the benefit of the lowest available prices."

The committee points out that since the date of its report for July, 1925, "the prices quoted for timber in the majority of districts have fallen, and lead, which had for some time continued to rise, now shows an almost general decline, the prices in some districts having fallen below those ruling in January, 1924."

### A Reservation.

Mr. H. T. Holloway, who could not attend the meetings of the committee, did not sign the Report. Three of the 15 other members—Mr. A. V. Alexander, M.P., Mr. R. Coppock, and Mr. G. Hicks—sign it with the following reservation:—

"We have signed the Report and agree that the investigation by the firm of accountants has not shown that any undue profit is being made as far as housing schemes are concerned by members of the National Light Castings Association, whose accounts have been investigated. The investigation, however, was limited to an examination of the cost and prices during the first half of 1925 and no examination was made of the cost or prices in 1924 or previously. Our view, however, is that this investigation is not of great value, and that a further inquiry should be made as to the efficiency of the industry, and as to the effect of the operations of the combine upon the costs to the consumer. For this purpose extended powers are necessary, and we confirm the views expressed on May 29, 1924, that we find ourselves inadequately equipped to ascertain the facts in regard to the reasonableness of prices of building materials as affected by the operations of combines and associations."

## PORTLAND BLAST-FURNACE CEMENT

The British Engineering Standards Association has now published a new issue of the British Standard Specification for Portland Blastfurnace Cement (No. 146, 1926), which was first issued in 1923. The modifications follow precisely the same lines as those introduced into the current issue of the B.S. Specification for Portland Cement issued in 1925 (Report No. 12), the following being the principal alterations embodied in the 1926 edition of Report No. 146:—

(1) A summary of the tests is given at the beginning of the Specification.

(2) Provision has been made for testing in hot countries at temperatures up to 95 degrees Fahrenheit. In climates where the temperature runs above 95 degrees or below 58 degrees special arrangements have to be made between the vendor and the purchaser unless the ranges given in the Specification can be artificially produced.

(3) The cement is now required to be more finely ground, the permissible residue on a 180 by 180 sieve being 10 per cent., instead of 14 per cent. Tolerances are laid down for the number and size of wires and size of openings in sieves, both for cement and for sand. The minimum size of the sieving area is now specified to be 50 sq. in., and the minimum depth of the sieves to be 2¾ in.

(4) The maximum figure for the hydraulic modulus of the Portland Cement clinker has been raised to 2.90, and the maximum limit for magnesia is now 4 per cent.

(5) The minimum tensile breaking strength of neat cement after seven days has been increased to 600 lbs. per sq. in., and that of cement and sand after seven days to 325 lbs. per sq. in. The 28-day test on neat cement has been eliminated.

(6) The amount of water for gauging cement and sand briquettes is now to be ascertained by means of a formula based upon the amount needed to produce the plastic mixture required in the tensile test for neat cement.

(7) The Standard Leighton Buzzard sand is required to be of the white variety, and its loss of weight on extraction with hot hydrochloric acid is specified not to exceed 0.25 per cent.

(8) The initial setting time of normal setting cement is to be not less than 30 minutes, and the initial setting time of quick-setting cement not less than five minutes.

Copies of this publication (No. 146, 1926) can be obtained from the B.E.S.A. Publications Department, 28, Victoria-street, London, S.W., price 1s. 2d. post free.

## PIECEWORK IN THE BUILDING TRADE

AT a meeting of over 400 building trade delegates in London last week, Mr. John Clancy presiding, the following resolution was passed unanimously:—

"That this meeting of delegates of the General District Committee, augmented by shop stewards of the London district, having received the report relating to the dispute between members of the Amalgamated Union of Building Trade Workers and Messrs. E. H. Smith, of Croydon, regarding piecework, fully endorse the action of the Divisional Council in withdrawing labour from the said firm, and are fully prepared to stand by the consequences; and in view of the threatened lock-out expressed in a communication from Mr. Brown, the director of the London Master Builders' Association, dated August 6, call upon the Executive Council to render the fullest support to the organisation in the event of the employers' threat being carried into effect."

A joint meeting of employers and operatives has since been held, at which it was agreed that a body representing both sides should be appointed to consider the dispute and endeavour to effect a settlement.

### Books Received.

SPECIFICATIONS FOR BUILDING WORKS. By Wilfrid L. Evershed. (London: Sir Isaac Pitman & Sons.) Price 5s. net.

COTTAGES: THEIR PLANNING, DESIGN AND MATERIALS. By Sir Lawrence Weaver. (London: *Country Life*.) 15s. net.

WOODCUTS BY MEMBERS OF BEMBRIDGE SCHOOL. Edited by J. Howard Whitehouse. (Cambridge: The University Press.) Price 10s. 6d. net.

EMPIRE FORESTRY JOURNAL, Vol. V. Edited by Fraser Story. (London: The Empire Forestry Association.) Price 4s. net.

BUILDERS' STANDARD ADMINISTRATION AND PRACTICE. By J. H. Bennetts. (London: Crosby Lockwood & Son.) Price 4s. 6d. net.

PYROXYLIN ENAMELS AND LACQUERS. By Samuel P. Wilson. (London: Constable & Co., Ltd.) Price 18s. net.

THE WREN SOCIETY. Vol. III. (Oxford: The University Press.) Price ?

THE HOME OF THE MONK. By the Rev. D. H. S. Cranage. (Cambridge: The University Press.) Price 6s. net.

THE MAKING AND TESTING OF PORTLAND CEMENT AND CONCRETE. (Hull: G. & T. Earle, Ltd.) Price 10s. net.

EIGHT HUNDRED YEARS OF HARTLINGTON PARISH CHURCH. By Herbert Wilson (Rochester: Parrett & Neves, Ltd.) Price 7s. 6d.

# THE MAKING-UP OF NEW AND PRIVATE STREETS.—III

### Preliminary Procedure by Local Authority.

WE now propose to consider the preliminary steps to be taken by a local authority in connection with making-up streets both under the Public Health Act, 1875, and under the Private Street Works Act, 1892, comparing the procedure under the two Statutes.

Under section 150 of the Public Health Act, 1875, the first step is for the local authority to serve (see section 267, as to service) a notice upon "the owners or occupiers of the premises fronting adjoining or abutting" on such parts of the street as may require to be sewered, levelled, paved, metalled, flagged, or channelled, or to be lighted, requiring them to do the work within a time to be specified in such notice. As regards lighting, this is specified as meaning "providing proper means for lighting."

Before giving such notices the urban authority shall cause plans and sections of any structural works intended to be executed, and an estimate of the probable cost to be made under the direction of their surveyor, the plans and sections according to scale as prescribed, and these plans, sections, and estimates shall be deposited in the office of the urban authority, open at all reasonable hours for inspection by all persons interested therein. It is only if such notices are not complied with that the authority may do the works themselves and recover the expenses in a summary manner from the owners in default in such proportion as is settled by the surveyor, or in case of dispute, by arbitration. We shall refer to this question of arbitration in our fourth article.

The local authority has also power to declare the expenses so incurred to be private improvement expenses—that is to say, they will be payable by a special rate to be levied over a period of years not exceeding 30 years (*see* section 213, and as to rural authorities, section 232).

Before considering the decided cases on this part of the section, it may be useful to compare the provisions set out above with the corresponding provisions in the Private Street Works Act, 1892, in order that the difference in procedure may be at once apparent. Under section 6, subsection (1), of this latter Act, where any street or part of a street is not sewered &c., (nature of the works is the same as in section 150 of the Public Health Act) to the satisfaction of the urban authority, the authority may "from time to time resolve with respect to such street or part of a street" to do the works (in this Act called "private street works"), and the expenses so incurred shall be apportioned, subject to certain provisions contained in section 10, on the premises fronting, adjoining, or abutting on such street or part of a street. We shall refer to the Private Street Works Act in detail in our fifth article. It will be noticed that the great distinction between this subsection and section 150 of the Public Health Act is that the authority does not in the first instance require the frontagers to do the work, but forthwith resolves to carry it out.

Reverting now to the notices to owners and occupiers to execute street works under section 150 of the Public Health Act, 1875, section 317 of that Act prescribes that the Schedules of the Act shall have effect as part of the Act, and it is provided that the forms contained in Schedule IV, or forms to the like effect, varied as circumstances may require, may be used and shall be sufficient for all purposes, and the following cases illustrate the effect of this section. In Stourbridge Urban District Council *v.* Butler and Grove (1909, 1 Ch. 87; *The Builder*, December 5, 1908) a resolution had been passed under the Public Health Act on October 29, 1906, that a certain street should be made up, and plans and sections were prepared and deposited. On November 2 two of the frontagers on the street had been served with notices, which, after referring to the resolution, proceeded: "I beg therefore to inform you, as an owner of property in such street, that unless the provisions of section 150 of the Public Health Act, 1875, are complied with within six weeks from the date hereof, the said council will cause such streets to be sewered," &c., and the notice went on to state that the expenses incurred must be repaid by the frontagers. The defendants did not comply with the notice and the council executed the works, completing them by May 14, 1907, and on June 27 served the defendant with the apportionment of expenses, and on November 8 made a demand for payment. The defendants, when served with the apportionment, took no steps to dispute it, neither did they comply with the demand for payment. The Council then took proceedings under section 257, but the Court held that the defendants were entitled at the hearing to object that the notice was bad, and this notice merely referring in general terms to the provisions of the section was insufficient and bad; the notice should substantially follow the Form G in Schedule IV, and specifically refer to the deposited plans and sections, and state that they are open to inspection at the offices of the council. Under the Private Street Works Act the statutory obligation is even more definite, as section 6 prescribes that the plans, sections, estimate, and provisional apportionment "*shall* comprise the particulars prescribed in Part II of the Schedule."

Under the Public Health Act, as we have shown, the notice in the first instance requires the work to be done by the owners or occupiers "within a time to be specified in such notice," but the time allowed, it has been held, must be a reasonable time in which to carry out the works demanded. In Bristol Corporation *v.* Sinnott (1918, 1 Ch. 62; *The Builder*, December 21, 1917), the time specified in the notice was one calendar month, and there was evidence that this period had been adopted as a matter of common form. The defendants had not disputed the apportionment, but had entered an appeal to the Local Government Board under section 268, taking the point that the time allowed was unreasonable. This appeal had been heard, but was withdrawn before any order of the Board had been made. The Corporation had then issued a summons to obtain a charging order under section 257, and in those proceedings the defendants took the point that the time allowed was unreasonable, and on appeal the Court of Appeal held that a reasonable time must be allowed, the authority exercising a discretion as to what is a reasonable time. The notice in this case was held bad, and the Court also held that the defendants were not estopped from taking the point by their having appealed to the Local Government Board, inasmuch as although the Board in the course of the inquiry had intimated that they proposed to decide against the defendants, no order had in fact been made. It may be mentioned that the time occupied by the Corporation in executing the work themselves was four months.

This case must be compared with Macclesfield Corporation *v.* Governors of King Edward VI School (1921, 2 Ch. 189; *The Builder*, November 25, 1921), a case which came before the Court in the same manner as the previous case on an application by the local authority for a charging order for the amount expended by them on works under section 150 of the Public Health Act, 1875. The frontagers, amongst other defences, had raised the defences (1) that the notices were irregular because the time in which the works had to be completed had not been fixed by the Corporation, and (2) that the time allowed—three months—was unreasonable. In this case the highway committee had resolved that two roads in their district should be made up and the clerk be instructed to serve the notices under section 150. This resolution had been confirmed by the Corporation, but no time was then fixed for the completion of the execution of the works and the notices were sent to the surveyor with the time left blank. The surveyor had subsequently, after consultation with the highway committee, decided that three months was the time to be allowed, and the notices were issued with the time inserted. The Court held that there was no reason why the local authority should not leave the time to be fixed by a competent person, and that the procedure adopted was within the statute.

Another point was decided in this case, which we referred to in our issue for November 25, 1921. The learned judge, in fact, found that the time allowed in the notices was reasonable for the execution of the works as a whole, but he intimated that in determining this question regard should be had to the work required to be done by each frontager and not to the work as a whole. We ventured to point out when noting this decision that such a view of the Statute was so far as he knew unsupported by previous authority, and if adopted would mark a new departure which, should frontagers ever carry out the works themselves as is contemplated by this section, would place serious difficulties in their way. The only method by which frontagers in practice could undertake works of this description would be to combine and employ a contractor, and he would require time to complete the works as a whole. We pointed out that an appeal from this part of the judgment could hardly be expected as the Court had, in fact, pronounced the time named sufficient for the execution of the whole work, and therefore it was practically only a dictum; but the point is certain to be raised again some day in another case, and the opinion of the Court of Appeal upon it would be welcomed.

Section 6 of the Private Street Works Act, 1892, which we have referred to above, enacts that the urban authority "may from time to time" resolve to do the works mentioned in the section, and in some text-books the case, Barry and Cadoxton Local Board (1895, 2 K.B. 110) is cited for the proposition that as regards other works than sewering those words enable a local authority to make up a street over and over again at the cost of the frontagers as often as the work is required, until the street is taken over and becomes repairable by the inhabitants at large. That was a case under the Public Health Act, 1875, section 150, decided by a Divisional Court, and the judgments delivered state that apart from the question of sewers, which are differently treated in sections 13 and 15 of the Act, the local authority can call upon owners to repair streets until they become repairable by the inhabitants at large.

It may, however, be permissible to observe that in the case in which these expressions occur in the judgments, the facts of the case were not that the local authority having, on a former occasion, taken steps to compel the frontagers either to do the works or pay for their being done under section 150 of the Public Health Act, were then a second time putting the machinery of the Act in force, as all that appears to have occurred in the first instance was that the owners of land when laying out streets on their land had submitted plans and specifications for approval by the local authority in or before the year 1889, and in 1891 the local authority had taken proceedings under section 150, and the fact of the plans and specifications having been approved before was held no bar to those proceedings. That seems a different proposition from what is to be inferred from the above expressions in the judgments. Mr. Justice Charles, who was one of the members of the Court, had the previous year, when also sitting as a member of a Divisional Court, in Mayor of Derby *v.* Grudgings (1894, 2 K.B. 496), after saying that part of a street forming the carriage-way had already been made up under section 150, gone on to say, "That being so, I should have thought it clear, even without authority, that the local authority could not call upon the frontager to do the work again," and then he cited two cases as authority which, however, were both cases relating to sewering. We only make the

above observations for what they are worth, and it is hardly necessary to labour the point, for the frontagers now have the remedy in their own hands. The Private Street Works Act, section 20, provides, "If any street is now or shall hereafter be sewered, levelled, metalled, flagged, channelled, and made good, all such works being done to the satisfaction of the local authority, then, on the application in writing of the greater part in value of the owners of the houses and land in such street, the urban authority shall, within three months from the time of such application . . . declare the same to be a highway repairable by the inhabitants," and we may remind our readers that a provision in similar terms is now contained in section 82 of the Public Health Act, 1925, in relation to streets made up under section 150 of the Public Health Act, 1875. (*See* end of article I.)

## INSTITUTION OF FUEL TECHNOLOGY

A MEETING was held, by the courtesy of the Council, at the Institution of Civil Engineers, recently to consider and, if approved, adopt the Constitution of the Institution of Fuel Technology prepared by the Organising Committee. The Chairman, Sir William Larke, read a letter from the President, Sir Alfred Mond, stating that the work which the Institution had set itself to do was of the utmost importance to industry and, indeed, to the whole commonwealth. Under the conditions in which the country had been existing during the last few months, public interest had become more and more concentrated on the problems which the Institution had been formed to solve.

The Chairman, Sir William Larke, in a short *résumé* of the work of the Organising Committee, said they had received a large number of letters expressing good wishes for the success of the Institution and enthusiastic support for its objects, not only from those distinguished in the various spheres of fuel interest who had agreed to accept office on the governing body, but from many others who, while unable to participate actively in the work, supported the aims and objects in view. Upwards of 150 founder members' forms had already been completed and received, and were still coming in freely. A suggestion had been made that this Institution and the Institution of Fuel Economy Engineers should, if possible, combine. Correspondence had been exchanged and a long conference held, but while both parties made every effort to find common ground for joint action, and the meetings were of the frankest and friendliest character, the Institution of Fuel Economy Engineers stipulated that the basis of membership should be some technical or professional qualification. So that membership of the new Institution should confer a status, it was requested that there should be provided at least one class of definitely qualified members. The Organising Committee felt that this was a fundamental difference quite contrary to the sense of the inaugural meeting, and that it would limit the sphere of usefulness of this Institution. The basis of the movement was that it should be national and all-embracing in character, and thus secure the support and co-operation of all interested in fuel and fuel problems. There was room for the closest co-operation between the two bodies, and he hoped that the councils of both would continue to explore the possibility of ultimate fusion.

The name, "The Institution of Fuel Technology," was adopted by the meeting as the name of the new organisation. In moving the resolution that the Constitution be adopted, Sir Richard Redmayne emphasised that the keynote of the Institution was "Co-operation," and not "Competition." Its work did not overlap the work of the other Institutions, but supplemented it. Cheap fuel was the basis of our national prosperity, and to use fuel to the best possible advantage it was necessary to utilise not only expert knowledge available in this country, but all that knowledge and experience had taught in other countries, and particularly to secure and encourage the application in practice of the results of scientific investigation and research.

This resolution was seconded by Mr. W. A. Woodeson.

On the motion of Mr. F. W. Harbord, seconded by Sir W. R. Smith, the following Officers and Council were unanimously elected:—

*President*: The Right Hon. Sir Alfred Mond.

*Vice-Presidents*: The Right Hon. Lord Aberconway, K.C., Professor Harold B. Dixon, C.B.E., F.R.S., Sir Robert A. Hadfield, Bart., F.R.S., The Right Hon. Lord Weir, D.L., Milne D. Watson, M.A., LL.B.

*Council*: R. A. Burrows, Sir Philip Dawson, M.A., M.P., F. A. Freeth, O.B.E., F.R.S., Sir W. J. Larke, K.B.E., R. Lessing, Ph.D., F.C.S., M. Mannaberg, Sir Edward Manville, M.P., S. McEwen, The Right Hon. Lord Montagu of Beaulieu, K.C.I.E., Sir Richard Redmayne, K.C.B., F.G.S., Admiral Sir Edmund Slade, K.C.I.E., M.V.O., W. Thorneycroft, Dr. M. W. Travers, F.R.S., Professor R. V. Wheeler, F.I.C., F.G.S., F.C.S., W. A. Woodeson, T. Hardie, A. H. Middleton, G. R. Thursfield, W. M. Selvey, M.I.Mech.E., M.I.E.E.

*Hon. Treasurer*: Sir W. B. Peat, C.V.O.

*Hon. Secretary*: E. C. Evans, B.Sc., F.I.C.

The Council were given discretion to arrange a meeting of the Institution during the autumn.

## BUILDING CONTRACTS

By W. T. CRESWELL, Lic.R.I.B.A., Associate (late Fellow) Surveyors' Institution, Barrister-at-Law, Author of "The Law Relating to Building and Building Contracts."

### APPROXIMATE ESTIMATES.

#### Where the Price is estimated by the Architect.

THE duties of the architect, as agent for the employer, usually include, amongst other things, the preparation of drawings and specifications for, and the superintendence of, the proposed works until their completion.

Before, however, an employer embarks on any building enterprise, the architect is usually called upon to furnish him with an approximate estimate of its cost, based on the drawings prepared by him for the purpose.

In his preparation of the approximate estimate, the architect is bound to bring to the work the exercise of his skill and judgment, and to take into account not only everything comprised within his drawings, but, in addition, such contingencies as the existent circumstances render possible or probable during the execution of the work, otherwise he may render himself liable to a charge of negligence. Further, if the figure in his approximate estimate be eventually exceeded, he may be unable to recover remuneration due under his expenses or implied contract with the employer, for as Lord Ellenborough said in Farnsworth *v.* Garrard (1807), 1 Camp. 38: "If there has been no beneficial service, there shall be no pay."

In addition, if the employer is eventually out of pocket over the building enterprise as a result of the architect's faulty approximate estimate, the latter may be held liable in damages therefor.

In Moneypenny *v.* Hartland (1826), 2 C. & P. 378, an engineer was employed by a committee, who proposed to erect a bridge and a road leading to it for the purpose of making an estimate of the probable expense of the works. It was held that he was bound to ascertain, specifically and on his own behalf by experiments, the nature of the soil; and this although a person previously employed by the committee, who had already made some such experiments, had given the said engineer, by the desire of the committee, information of the result so obtained; and that, as his estimate was eventually proved to be incorrect to a considerable amount through his omission to examine the ground independently for himself, he was not entitled to recover anything for his plans, specification or estimate as made for that work. It was in this case that Best, C.J., said: "If a surveyor delivers in an estimate greatly below the sum at which a work can be done, and thereby induces a private person to undertake what he would not otherwise do, then I think he is not entitled to recover."

In Columbus Co., Ltd. *v.* Clowes (1903), 1 K.B. 244, where an architect had neglected to measure the actual site and had prepared plans suitable for a smaller site, and had been paid remuneration by the employer for so doing, it was established that an architect may be compelled to refund the whole or part of such remuneration if he has wholly or in part shown such lack of skill that by reason of his conduct the employer has derived no benefit, or only partial benefit, from his services.

#### When the Price is fixed by the Employer.

In some cases the architect is instructed to prepare drawings for a building, the cost of which has been previously fixed by the employer, and if on receipt of tenders for the work set for th by those drawings it is found that the work cannot be carried out for such fixed amount, the architect cannot recover any remuneration for his work on the drawings, etc.

In Nelson *v.* Spooner (1861), 2 F. & F. 613, architects whose plans had, in the first instance, been accepted were afterwards rejected on the ground that no one could be found to carry out the work proposed for the amount of their estimate.

In this case, Cockburn, C.J., put to the jury the following questions:—

(1) Whether it was an express condition that the works shown in the revised plans should be capable of being executed for the estimated sum? If not, then

(2) Whether there is an implied condition in such cases that the work shall be capable of being done for a sum reasonably near to the estimated sum? If so, then

(3) Do you think that the plaintiff's estimate was so reasonably sufficient as that the defendants ought to have employed him?

(4) As to the common counts, it is for you to consider whether the labour bestowed on the plans, &c., was not bestowed under the special contract.

The jury could not agree and were discharged.

In Ada Street Church *v.* Garney (1872), 66, Jll. 132, where plans were accepted on condition that the work could be carried out for a given sum and afterwards it was found they could not be carried out for that sum, and the plans were therefore rejected, it was held that no remuneration could be recovered for the making of the plans.

#### The Architect's Resource.

If, on the other hand, when tenders are obtained by the architect, they exceed the amount of his approximate estimate, his remedy is to obtain further tenders, provided he can do so within the time originally allowed him by the employer, or failing any time being given, then within a reasonable time. No further expense, however, must be cast upon the employer by this procedure, unless, of course, it is undertaken with his consent.

Apart from all the foregoing, it should be borne in mind that if the conditions of an architect's employment are to make plans and supervise works, no express conditions as to remuneration being specified and no other such developments as those reviewed arise, but yet the scheme is abandoned by the employer, arbitrarily or for his own interest or convenience, then, in that case, the architect is entitled to reasonable remuneration as a skilled draughtsman. (See Burr *v.* Ridout, the *Times*, February 22, 1893.)

## SPECIFIC PERFORMANCE: SPECIAL EXPENSES RATE.

A case is reported in the *Weekly Notes*, July 31, which should be noted as it raises a point of interest under the Public Health Act, 1875, but is not going to be reported in the Law Reports. The case is Calder's Yeast Company, Limited *v.* Stockdale (*Weekly Notes*, July 31). By an agreement dated May 17, 1923, the plaintiffs had agreed to sell to the defendant and his wife some freehold land and a brewery, and it was a term of the agreement that the purchase money should be paid by certain instalments, but the purchase should be completed on November 17, 1923, any balance of the purchase money being secured by a mortgage on the premises in favour of the vendors.

The sum of £350 had been paid as deposit, and on May 17 the defendants had entered into possession, but no further sum had been paid in respect of the purchase money, which was £3,250. An abstract of title and requisitions and replies thereto had been delivered, and at last, on February 18, 1925, nothing further having been done, the plaintiffs gave the defendants notice to complete the purchase, and the defendants not having complied with this notice, the plaintiffs brought this action for specific performance. The defence to the action was that the delay in completion was due to the plaintiffs having refused to release the property from a certain charge upon it under the Public Health Act, 1875, which had not been disclosed to the defendants. It was alleged that this charge arose in this way: In the years 1901 and in 1909 loans of £900 and £282 respectively were raised by the Thirsk Rural District Council under the Public Health Act, 1875, to carry out sewerage works at Thornton-le-Moor, where the property in question was situated; these loans were repayable by instalments of principal and interest over periods of 30 and 22 years, and became chargeable on that parish and were "Special Expenses" repayable by a special rate under sections 229 and 230 of the Public Health Act, 1875.

It was contended for the defendants that this special rate which was collected with the poor rate, but separately specified in the demand note, was a charge on the premises, and section 257 of the Public Health Act, 1875, was relied upon and the case Stock *v.* Meaking (1900 1 Ch. 683) was cited. The Court held that this contention was altogether erroneous, for under section 230 the levy for special expenses was made in the same manner as if it were the poor rate, and the powers of the overseers in levying the rate were with certain immaterial exceptions subject to the same provisions as applied to the poor rate, and it was thus not a charge on the land but a personal charge on the occupier of the land recoverable by distress and sale of the goods of the person in default; the special expenses were, therefore, no more than an outgoing, of which the vendors were only liable to pay the apportioned amount up to the date of completion.

The court pointed out that the expenses in respect of which this special rate was made were not the expenses which were within the intendment of section 257, which are made a charge on the premises, and judgment was entered for the plaintiff for a decree of specific performance.

The expenses to which section 257 refers are expenses for the repayment of which the owner of premises for, or in respect of which, the same are incurred, is made liable under the Act, or by agreement with the local authority; for instance, street works executed on default on the part of the owners of premises under the Public Health Act, 1875, or expenses incurred as under the Private Street Works Act on street works but apportioned as against the owners of premises, and other cases of this nature.

Stock *v.* Meaking was a case under the Private Street Works Act, 1892, and illustrates what we have said above.

## LAW REPORTS

### An Unbuilt Bungalow.

Damages Against Contractors.

At Westminster County Court, before Judge Hill Kelly, Mr. John Thomas Bentley, engineer, New-road, Peterborough, claimed £100 from Messrs. L. Walter & Sons, builders, New Oxford-street, for failing to complete the building of a bungalow at Newhaven. Mr. Morris, counsel for the plaintiff, said that the other side were not represented.

Mr. Bentley said that in February last he contracted with the defendants to build for £530 a bungalow at Bush Valley-road, Valley Estate, Newhaven, on a site obtained from the South Coast Land and Resort Co., Ltd., and paid £53 down. It was not till April 27 that they had finished the foundations, although it was arranged that the bungalow should be completed by that time. He paid a further £26 10s. when the foundations were completed. Nothing had been done to the building since, and defendants had done nothing to obtain a Government subsidy and a mortgage from the local council as promised. He had been at considerable outlay in travelling to and from Newhaven and obtaining lodgings there for himself and wife, and now the place would be no good to him because he had taken an appointment under the Brazilian Railway Co., and was going to Brazil.

Judgment was given, with costs, for plaintiff for £79 10s. deposit paid by plaintiff, and £5 damages, and for return of the deeds of the land to him within seven days.

### Plymouth Housing Scheme Arbitration.

A dispute between the Plymouth Corporation and Mr. A. J. Steer, one of its contractors under the North Prospect housing scheme, has been settled by an arbitrator from the Ministry of Health. Mr. Steer constructed roads for the council, and his claim was for £3,036, balance of account, which amount he had offered, for the purpose of settlement, to reduce to £2,736. The Corporation contended that upon variations in the prices of materials during the currency of the contract they were entitled to set off £3,575 against the contractor's account. The main point in the dispute was the relevance or otherwise of a schedule of prices prepared at the time the contract commenced. Mr. Steer contended that this schedule formed no part of the contract, having been declared inapplicable by the Ministry of Health prior to the contract being signed. The award of the arbitrator, Mr. H. L. Gwyer, directs that the contract price is to be reduced by £571 5s. 9d. by reason of alterations in the current cost of material used in the execution of the work, this meaning that the contractor is to receive £2,242 upon his claim of £2,736, together with interest on certain retention moneys. The Corporation has to pay half of the contractor's costs in the arbitration proceedings.

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### Land for Housing Schemes.

Various local authorities have been considering the question of buying land in anticipation of future building developments. Dundee, for example, some years ago bought land outside the city boundaries. This is now let out for farming and gives a substantial return, said to be over 6 per cent. The London County Council are also considering buying land that may possibly be used in the future for working-class housing schemes, but will be suitable for recreation grounds until such time.

### Naval Training Establishment for Pembroke.

To compensate Pembroke in some measure for the closing of the Naval Dockyard, the Admiralty have practically decided to establish there a training establishment for certain classes of personnel. Six or seven hundred men will be brought into the town, and it is expected that about £200,000 may be spent on buildings. The work will probably begin after the next Navy estimates have been introduced.

## NEW BUILDINGS IN LONDON.

**Bexley.**—The building of the new memorial homes for aged poor has just been commenced from plans prepared by Mr. A. W. Ryall, of Dartford. Mr. W. Mitchell (Dartford) is the builder.

**City.**—The side chapel in the church of St. Andrew-by-the-Wardrobe, Queen Victoria-street, which is to be the memorial to the Rev. Percival Clementi-Smith, who was for a number of years rector of the parish, is to be at the east end of the north aisle, and will correspond with the existing chapel in the south aisle. The total cost will be just under £200. The architect is Sir Charles Nicholson.

**City.**—Messrs. W. S. Barton & Co., of 43, Chancery-lane, W.C.2, have secured the contract for extensive alterations at Beatley House, Masons-avenue, E.C.2, for Messrs. The Selection Trust, Ltd. Mr. Theophile Schaerer, L.R.I.B.A., architect, 11, Dacre-street, Westminster, S.W.1.

**Dagenham.**—A new cinema is to be built here to accommodate 3,000 persons. Mr. Edward Meredith, A.R.I.B.A., 7, Goodmayes-road, Goodmayes, Essex, is the architect.

**Finchley.**—Alterations and enlargements are to be carried out to two cinema theatres by the National Electric Theatres, Ltd., Grafton House, Golden-square. Messrs. Frank Matcham & Co., 9, Warwick-court, London, W.C., are the architects.

**Fulham.**—Messrs. W. S. Barton & Co., of 43, Chancery-lane, W.C.2, have secured the contract for the erection of 14 shops, with living accommodation over, in Lillie-road, Fulham. Mr. C. J. Mole, M.B.E., F.R.I.B.A., architect, Bowes-road, Walton-on-Thames.

**Golders Green.**—It is proposed to erect a new cinema at the Temple Fortune side of Golders Green. Mr. H. Williams, Shaftesbury-avenue, is the promoter of the scheme, and Mr. C. E. Soutar, Wyldes, North End, Finchley, N.W., is the architect.

**Hounslow.**—Alterations are to be carried out for Mr. J. Tilney at the Alcazar Picture Theatre, Staines-road. Mr. Bertie Crewe, 75, Shaftesbury-avenue, W.C.2, is the architect.

**Hounslow.**—It is proposed to build a new picture house on the site of the old Empire Electric Cinema. Mr. R. A. C. Churchward, architect, 92, Victoria-street, Westminster, S.W.1.

**Marylebone.**—A new cinema is to be built on part of the site of Madame Tussaud's Exhibition by Madame Tussauds (1926), Ltd., Allsop-place, Marylebone-road, W.1. Mr. F. E. Jones, Gloster-mansions, Cambridge-circus, London, W.C.2, is the architect.

**Westminster.**—A new company has been formed with a nominal capital of £5,000 to carry out the reconstruction of the Empire, Leicester-square. The directors are Baron Lurgan, Sir A. Butt, M.P., Sir W. Jury, and Mr. H. H. S. Wright, and the secretary, Mr. R. E. Gray, 17, Waterloo-place, S.W. Messrs. F. Matcham & Co., 9, Warwick-court, W.C., are the architects.

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### American Town Planners.

A party of American visitors who are interested in town planning are making a tour of England and Scotland on their way to the International Town-planning Conference which is to be held next month in Vienna, and has been arranged by the International Federation for town and county planning and the provision of garden cities.

### Restoration of the Parthenon.

The re-erection of the fallen columns of the Parthenon was begun by M. Balanos, architect and Inspector of Works at the Greek Ministry of Public Institutions, but he was forced to abandon operations owing to lack of funds. Professor Edward Capps, formerly United States Minister at Athens and Professor of Classical Philology in Princeton University, N.J., now announces that the amount necessary to re-erect the columns has been collected in America.

# RATES OF WAGES IN THE BUILDING TRADE

**Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.**

| | Masons | Bricklayers. | Carpenters Joiners | Plasterers. | Slaters. | Plumbers. | Painters. | Labourer. |
|---|---|---|---|---|---|---|---|---|
| Aberdare | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Accrington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Alfreton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Alnwick | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Altrincham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Ashford (Kent) | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Ashington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Ashton-under-Lyne | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Aylesbury | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Aylsham | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Banbury | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Barnsley | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Barnstaple | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Barrow-in-Furness | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Barry | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Basingstoke | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Bath | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Bedford | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Berwick | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Bexhill | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Birkenhead | 1/10 | 1/10 | 1/10 | 1/11 | 1/10 | 1/10 | 1/9½ | 1/4½ |
| Birmingham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bishop Auckland | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Blackburn | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Blackpool | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bolton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bournemouth | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Bradford | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bradford-on-Avon | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/3½ | 1/0½ |
| Braintree | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Brentwood | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Bridgwater | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Bridlington | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Brighton | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Bristol | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bromsgrove | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Bromyard | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/0½ |
| Bungay | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Burnley | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Burton-on-Trent | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Bury | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Buxton | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Cambridge | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Canterbury | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Cardiff | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Carlisle | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Chatham | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Chelmsford | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Cheltenham | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Chester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Chesterfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Cirencester | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/4 | 1/1 |
| Clacton | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Colchester | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Coventry | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Cranbrook | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Crewe | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Cromer | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Darlington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Deal | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Denbigh | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Derby | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Devizes | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/3½ | 1/0½ |
| Dewsbury | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Doncaster | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Dorchester | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/3½ | 1/0½ |
| Dorking | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Dovercourt | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Driffield | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Droitwich | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Dudley | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Durham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Eastbourne | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| E. Glam. (Mon. Val) | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Ely | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Exeter | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/6 | 1/2½ |
| Exmouth | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Fakenham | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Felixstowe | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Folkestone | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Frome | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Glossop | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Gloucester | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/5 | 1/1½ |
| Godalming | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Goole | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Gosport | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Grantham | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/£ |
| Grays | 1/8½ | 1/8½ | 1/8½ | 1/8½ | 1/8½ | 1/8½ | 1/7½ | 1/3½ |
| Great Yarmouth | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Grimsby | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Guildford | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Halifax | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Harpenden | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Harrogate | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Hartlepools | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Harwich | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Hastings | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Hatfield | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Hednesford | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Hereford | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/5 | 1/1½ |
| Herne Bay | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Hertford | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Hitchin | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Hoddesdon | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Holt | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Huddersfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Hull | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Hunstanton | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Huntingdon | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Isle of Wight | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/0½ |
| Ipswich | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Keighley | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Kettering | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Kidderminster | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| King's Lynn | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Lancaster | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Leamington Spa | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Leeds | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Leicester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Leighton Buzzard | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Lichfield | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Lincoln | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Littlehampton | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Liverpool | 1/10 | 1/10 | 1/10 | 1/11 | 1/10 | 1/10 | 1/10 | 1/9½ |
| Llandudno | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Llanelly | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| London: | | | | | | | | |
| 12 m. radius | 1/9½ | 1/9½ | 1/9½ | 1/9½ | 1/9½ | 1/9½ | 1/8½ | 1/4½ |
| 12–15 m. radius | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/9 | 1/8 | 1/4 |
| Loughborough | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Lowestoft | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Luton | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Macclesfield | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Maidstone | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Malvern | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Manchester | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Mansfield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Margate | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Market Harb'rough | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Matlock | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Melton Constable | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Melton Mowbray | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Merthyr Tydfil | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Middlesbrough | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Newark | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Newbury | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Newcastle-on-Tyne | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Newcastle-ur-Lyme | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| New Forest | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Newmarket | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Newport, Mon. | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Northampton | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Norwich | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Nottingham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Nuneaton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Oakham | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Oldham | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Oxford | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Paignton | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Peterborough | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Plymouth | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/7 | 1/3½ |
| Pontypridd | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Portsmouth | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Preston | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Ramsgate | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Reading | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Redcar | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Redditch | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Reigate | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Retford | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Ripon | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Rochdale | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Rochester | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Rugby | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Saffron Walden | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| St. Albans | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| St. Helens | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Sawbridgeworth | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Saxmundham | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/0½ |
| Scarborough | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Sevenoaks | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Sheffield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Shrewsbury | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Sittingbourne | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Southampton | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Southend-on-Sea | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Southport | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| South Shields | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Stevenage | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Stockport | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Stockton-on-Tees | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Stoke-on-Trent | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Stourbridge | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Stourport | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Stowmarket | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Stratford-on-Avon | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Stroud | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5 | 1/1½ |
| Sunderland | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Swaffham | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Swansea | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Swindon | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/5 | 1/1½ |
| Tamworth | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Taunton | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Thetford | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Torquay | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Totnes | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Trowbridge | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Tunbridge Wells | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Uttoxeter | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/5½ | 1/1½ |
| Wakefield | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Walsall | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Wallsend | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Warminster | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Warrington | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Warwick | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Wells (Norfolk) | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Welwyn Gar. City | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| West Bromwich | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Weston-sup.-Mare | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Weymouth | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Whitby | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Wigan | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Winchester | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Windsor | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/1½ |
| Wisbech | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Wolverhampton | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Woodbridge | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/4½ | 1/0½ |
| Worcester | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Worksop | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/6½ | 1/2 |
| Worthing | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/5 | 1/1 |
| Wrexham | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/7½ | 1/2½ |
| Wroxham | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 1/3½ | 11½ |
| Wymondham | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/0½ |
| York | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |

(For rates of wages in the Building Trade in Scotland, see page 316.)

# CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

*The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.*

## BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

AUGUST 23.—**Aberdare.**—PAINTING.—For painting work at the Markets and Slaughter Houses, for the Aberdare Markets Co. Mr. J. Llewellyn Smith, architect, Aberdare.

*AUGUST 23.—**Alnwick.**—HOUSES.—Erection of 10 houses, for the R.D.C. Mr. H. W. Walton, clerk, Alnwick.

AUGUST 23.—**Aylesbury.**—HOUSES.—Erection of 62 houses on the California estate, for the T.C. Mr. W. H. Taylor, Borough Engineer, Town Hall, Aylesbury.

AUGUST 23.—**Bromley, Kent.**—SCHOOL.—Erection of a new Council School to accommodate 320 senior girls and 400 mixed juniors on the Bromley portion of the L.C.C. Downham housing estate, for the B.C. F. H. Wood, P.A.S.I., Chartered Quantity Surveyor, Gloucester House, 19, Charing Cross-road, W.C.2. after payment of deposit of £2 2s. to the Clerk to the Bromley E.C.

AUGUST 23.—**Edinburgh.**—PLATFORM, &c.—Construction of a tipping platform in ferro-concrete and steel, together with mass concrete foundation for new destructor unit, and the removal of the existing steel platform, for the T.C. Burgh engineer, City Chambers, Edinburgh.

AUGUST 23.—**Horsham.**—HOUSES.—Erection of 69 houses on the site of Spooner's Farm, Crawley-road, for the U.D.C. C. G. Atkinson, Council's Surveyor, Town Hall Chambers, Horsham. Deposit £3 3s.

AUGUST 23.—**Horsham.**—HOUSES.—For the erection of one pair of houses at Colgate, in the parish of Lower Beeding, and one pair of houses at Jolesfield Common, in the parish of West Grinstead, for the R.D.C. Mr. W. R. Guilford, surveyor, 42, Albion-terrace, Horsham. Deposit £1 1s.

AUGUST 23.—**Littlehampton.**—PAINTING.—For internal plastering, wall tiling, painting, and other works, at Institution, for the East Preston Board of Guardians. Mr. J. W. Calvert, clerk, East-street, Littlehampton.

AUGUST 23.—**Plymouth.**—PAINTING.—For external painting of certain schools. E. Chandler Cook, Secretary for Education, Education Office, Coburg-street Plymouth.

AUGUST 23.—**St. Helens, I.W.**—HOUSES.—For the erection of 12 houses, for the U.D.C. Mr. L. F. Phillip, clerk, Alexandra-road, Ryde.

AUGUST 23.—**Southend-on-Sea.**—ALTERATIONS, &c.—For the alterations, cleaning and painting at No. 1, London-road, for the T.C. Mr. Robert H. Dyer, Borough Engineer, Municipal Buildings, Southend-on-Sea. Deposit £1.

AUGUST 23.—**South Stoneham.**—HOUSES.—Erection of 44 houses, for the R.D.C. W. R. Cowell, surveyor, Town Hall, Eastleigh. Deposit £2 2s.

AUGUST 24.—**Dublin.**—PAINTING, &c.—(*a*) Internal painting work at Iveagh Market, and (*b*) tiling and miscellaneous work at Capel-street Library, for the Borough Commissioners. Supplies Dept., Lord Edward-street, Dublin.

AUGUST 24.—**Dunblane.**—HALL.—For the reconstruction of Victoria Hall, Dunblane. Messrs. E. Simpson, M'Michael & Davidson, architects, Stirling. Deposit £1.

AUGUST 24.—**Gilfach-Maen-Isaf.**—HOUSES.—Erection of 100 houses, together with roads and sewers, on upper part of site at Gilfach-Maen-Isaf, Trelewis, Glamorgan, for the Taff Merthyr Garden Village, Ltd. T. Alwyn Lloyd, 6, Cathedral-road, Cardiff. Deposit £3 3s.

AUGUST 24.—**London.**—COTTAGES, &c.—Erection of five cottages and the conversion of a warehouse into eight flats at 59, Grange-walk, for the Bermondsey Borough Council. Fredk. Ryall, Town Clerk, Town Hall, Spa-road, Bermondsey, S.E.16. Deposit £2 2s.

AUGUST 24.—**Thurstonland and Farnley Tyas.**—HOUSES.—Erection of 16 dwelling-houses, in Stocksmoor-lane, for the U.D.C. J. Berry & Sons, architects, 3, Market-place, Huddersfield.

AUGUST 24.—**Watford.**—HOUSES.—For the erection of 20 cottages on the Maple Cross Building site in the Parish of Rickmansworth Rural, for the Watford R.D.C. Surveyor, 9, Market-street, Watford. Deposit £2.

AUGUST 24.—**Whitstone.**—RESTORATION.—For the restoration, after fire, of Whitstone Head, Whitstone, Cornwall, for Dr. R. Wharry. Mr. W. J. Graver, auction and estate offices, Bude.

AUGUST 24.—**Wishaw.**—ADDITIONS, &c.—For alterations and additions to the Post Office, Wishaw, Lanarkshire, for H.M. Commissioners of Works. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

AUGUST 25.—**Darlington.**—SALE RING.—Erection of sale ring, for the T.C. Borough Surveyor, Darlington, Deposit £1 1s.

AUGUST 25.—**Dublin.**—LAVATORIES.—Construction of two new lavatories, one at Rathfarnham Courthouse and one at Rathcoole Courthouse, also the breaking of a new door at Balbriggan Courthouse, for the Dublin C.C. Secretary's Office, 11, Parnell-square, Dublin. Deposit, £2 2s.

AUGUST 25.—**Godalming.**—HOUSES.—For blocks of four, two blocks, four pairs, seven pairs, seven pairs, one pair, for the T.C. G. B. Hartfree, Borough Surveyor and Housing Architect. Deposit £2 2s.

AUGUST 25.—**Harwich.**—HOUSES.—For the erection of 17 houses, for the T.C. Mr. F. Harold French, Borough Engineer, Harwich. Deposit £1 1s

AUGUST 25.—**London.**—PAINTING.—Cleaning and painting and repairs at Southwark Casual Ward, Great Guildford-street, S.E., for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1.

AUGUST 25.—**London.**—PAINTING.—Cleaning and painting at St. Pancras Casual Ward, Holmes-road, Kentish Town, N.W., and Brook Ambulance Station, Shooter's-hill, S.E. 18, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1 1s. each work.

AUGUST 25.—**Manton.**—HOUSES.—Erection of 236 houses and roads, and sewers, for the Wigan Coal and Iron Co J. Haslam, Ryton Chambers, Bridge-place, Worksop. Deposit £2 2s.

AUGUST 25.—**Ogmore and Garw.**—HOUSES.—For the erection of 28 houses at Llangeinor, for the U.D.C. Mr. W. T. Ollivant Jones, surveyor, Council Offices, Brynmenyn. Deposit £2 2s.

*AUGUST 25.—**Surrey.**—CLEANING AND PAINTING WORKS, &c.—Cleaning and painting works and repairs and forming operating room at Caterham Mental Hospital, Caterham, Surrey, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1.

AUGUST 25.—**Various Places.**—BUILDING WORK.—(1) New coal store, &c., at Eastern Hospital, Homerton-grove, E. 9; (2) new verandah to infirmary block at White Oak, Swanley, Kent; (3) new drying room and scullery at Woolwich Casual Ward, Hull-place, Plumstead, S.E. 18; and (4) alterations and laying new floor to recreation room at the Brook Hospital, Shooter's Hill, S.E. 18, for the Metropolitan Asylums Board. Office of the Board, Victoria-embankment, E.C. 4. Deposit £1 each.

AUGUST 26.—**Banbridge.**—ALTERATIONS—For alterations and additions to Banbridge Technical and Secondary School premises, for the Down County Regional Education Committee. Mr. W. W. Larmor, architect, Banbridge.

AUGUST 26.—**Cahir.**—COTTAGES.—Eight cottages at Cahir, co. Tipperary, for the Irish Sailors' and Soldiers' Land Trust. Engineer, 30, Lower Fitzwilliam-street, Dublin. Deposit £2 2s.

AUGUST 26.—**Chatham.**—HOUSES.—For the erection of 132 houses on the Post Barn housing site, for the T.C. Mr. R. L. Honey, Borough Engineer, Town Hall, Chatham. Deposit £2 2s.

AUGUST 26.—**Glasgow.**—SCHOOL—For various trades in connection with the erection of Hyndland (New) School, Clarence-drive, Hyndland, for the Education Authority. Education Offices (Property Department), 129, Bath-street, Glasgow. Deposit £1 1s. per specification.

AUGUST 26.—**Minster.**—MORTUARY.—For mortuary, &c., for the Isle of Thanet B.G. Messrs. Reeve & Reeve, 1, Union-crescent, Margate.

AUGUST 26.—**Stirling.**—HOUSES.—For the erection of 11 houses and four shops, for the T.C. Mr. A. H. Goudie, Borough Engineer, Stirling.

AUGUST 27.—**Carmarthen.**—EXTENSION.—Extension and renovating the vestry room of the Capel Newydd Llanddarog. T. Davies, architect, Harddfan, Upper Tumble, Llanelly.

AUGUST 27.—**Huyton.**—POINTING, &c.—(1) For pointing masonry at public offices; (2) external painting at public offices, for the U.D.C. Surveyor, Huyton.

AUGUST 27.—**Northampton.**—HOUSES.—Erection of 113 houses of brick or special forms of construction on the Gipsy-lane estate, for the T.C. Mr. Alfred Fidler, Borough Engineer, Guildhall, Northampton. Deposit £5.

AUGUST 28.—**Cardiff.**—HOUSES.—Erection of 12 houses at Pentyrch, for the Cardiff R.D.C. M. Warrent, Clerk, Park House, 20, Park-place, Cardiff. Deposit £2.

AUGUST 28.—**Daventry.**—ALTERATIONS.—Alterations to the Women's Receiving Ward at the Union Workhouse, for the B.G. C. Beck, Union Workhouse, Daventry.

AUGUST 28.—**Hebden Bridge.**—PAINTING.—Decoration of Hope Baptist Chapel, Hebden Bridge. Sutcliffe & Sutcliffe, architects, New-road, Hebden Bridge.

AUGUST 28.—**Hyde.**—HOUSES.—For the erection of 36 houses on the Bennett-street site. Mr. J. H. Ward, Borough Surveyor, Town Hall, Hyde. Deposit £2 2s.

*AUGUST 28.—**March, Cambs.**—SCHOOL.—Erection of a senior elementary school with accommodation for 640 scholars, at Wisbech, for the Isle of Ely County Council. R. S. W. Perkins, County Surveyor, Lynn-road, Wisbech. Deposit £5 5s. (payable to the Isle of Ely Education Committee).

AUGUST 28.—**Southampton.**—HOUSES.—Erection of 46 houses on Block 3 of the Burgess-road housing site, for the T.C. Borough Engineer, Southampton Deposit £2 2s.

AUGUST 28.—**Sowerby Bridge.**—HOUSES.—For the erection of 18 houses on the Willow-street housing site, for the U.D.C. Mr. J. Eastwood, Surveyor, Council Offices, Sowerby Bridge.

AUGUST 28.—**Sowerby Bridge.**—PAINTING.—For painting various bridges, &c., for the U.D.C. Mr. J. Eastwood, Surveyor, Council Offices, Sowerby Bridge.

AUGUST 29.—**Cardiff.**—HOUSES.—Twelve houses at Pentyrch, for the R.D.C. Richards & McLean, architects, 5, Dumfries-place. Deposit £2.

*AUGUST 29.—**Richmond.**—HEATING.—Installation of a hot-water (low pressure) heating system at the hospital at Mogden, for the Borough of Richmond (Surrey) and the Heston and Isleworth U.D.C. Joint Isolation Hospital Committee. Committee's Architect, H. Percy Adams, F.R.I.B.A., 7, Knightsbridge, Hyde Park Corner, S.W. 1. Deposit £1 1s.

AUGUST 30.—**Baltinglass.**—HOSPITAL.—For the building of a district hospital at Baltinglass, for the Wicklow County Board of Health and Public Assistance. Mr. P. W. Sheehan, secretary, Board of Health Offices, Rathdrum. Deposit £1.

AUGUST 30.—**Bebington and Bromborough.**—HOUSES.—100 houses on the housing site, for the U.D.C. H. W. Corrie, surveyor. Deposit £2 2s.

AUGUST 30.—**Bourne.**—HOUSES.—Erection of eight houses in Burghley-street, and four houses at Dyke, for the U.D.C. A. W. Plowright, surveyor, Bourne.

AUGUST 30.—**Harpenden.**—PAINTING.—For painting and decorating the exterior and interior of the Public Hall. Surveyor, Public Hall, Harpenden.

AUGUST 30.—**Stevenage.**—HOUSES.—Erection of 60 houses, for the U.D.C. Mr. R. A. Gandy, surveyor, Stevenage, Berks. Deposit £2 2s.

AUGUST 30.—**Westhampnett.**—HOUSES.—Erection of 22 houses in the parishes of West Wittering and West Stoke, for the R.D.C. Mr. W. D. Rasell, Clerk, Council Offices, Pallant House, Chichester.

AUGUST 31.—**Atherstone.**—HOUSES.—For building about 100 houses in five of the parishes within the rural district, for the R.D.C. Mr. H. J. Coleby, Surveyor, Council Offices, 102, Long-street, Atherstone.

AUGUST 31.—**Barking.**—EXTENSION.—Construction of foundations and buildings for the extensions at Barking power station, for the County of London Electric Supply Co., Ltd. Sir Alexander Gibb & Partners, Queen Anne's Lodge, London, S.W.1. Deposit £15 15s.

*AUGUST 31.—**Birmingham.**—REINFORCED CONCRETE AND BUILDING WORK.—Erection of reinforced concrete galleries and incidental building work in connection with the reconstruction of the Town Hall, for the Public Works and Town-Planning Committee. Herbert H. Humphries, M.Inst.C.E., City Engineer and Surveyor, The Council House, Birmingham. Deposit £2 2s.

AUGUST 31.—**Cheadle and Gatley.**—SUB-STATION.—For the erection of a sub-station building, for the U.D.C. R. W. Willis, 37, High-street, Cheadle. Deposit £1 1s.

AUGUST 31.—**Darlaston.**—ADDITIONS, &c.—(*a*) Darlaston Slater-street Council school: Erection of new department for 336 infants, and extension of existing building; (*b*) Darlaston Salisbury-street Council school: Adaptation of existing buildings as an upper standard school, including the erection of four additional classrooms, science laboratory, assembly hall, staff-rooms, &c., for the Staffordshire E.C. Mr. F. A. Hughes, Director of Education, County Education Offices, Stafford. Deposit £3 3s. each contract.

AUGUST 31.—**Daventry.**—HOUSING.—Erection of eight houses at Badby and 12 houses at Flore, for the R.D.C. J. B. Williams, architect, the Moot Hall, Daventry.

AUGUST 31.—**Duncon.**—EXTENSIONS.—For (1) new operating theatre and ward kitchen; (2) alterations to laundry block; (3) new four-apartment lodge, at District Cottage Hospital, for the Committee. Sir John Burnet, Son & Dick, architects, 239, St. Vincent-street, Glasgow.

AUGUST 31.—**Evesham.**—ADDITIONS.—For additions to the Evesham Hospital, for the Committee. Messrs. Bateman, 18, Bennetts Hill, Birmingham.

AUGUST 31.—**Goole.**—ALTERATIONS.—For alterations and extensions to the Post Office and Telephone Exchange, Goole, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

AUGUST 31.—**Hulme.**—EXTENSION.—Building new science block, gymnasium, and extension to hall at the Hulme Grammar School, Alexandra Park, Manchester. Francis Jones & H. A. Dalrymple, architects, 178, Oxford-road. Deposit £1 1s.

*AUGUST 31.—**London.**—PAINTING.—Internal painting at the Ministry of Health, Maida Vale Rink, Delaware-road, W., for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

*AUGUST 31.—**Middlesex.**—HOUSES, ROADS AND SEWERS.—Construction of new roads and sewers, and the erection of 168 houses on the Greenford-road site, for the Greenford U.D.C. A. Lloyd Jones, Clerk to the Council, New Broadway Chambers, New Broadway, Ealing, W. 5. Deposit £2 2s.

AUGUST 31.—**North Shields.**—IMPROVEMENTS.—Construction of a new quay, transit shed, passenger platform, railways, &c., at the river wall, Albert Edward dock, North Shields, for the Tyne Improvement Commission. A. Blacklock, secretary, Tyne Improvement Commission Offices, Bewick-street, Newcastle-upon-Tyne. Deposit £10 10s.

*AUGUST 31.—**Plymouth.**—HOUSES.—Erection of two blocks of brick houses containing 18 flats, at Strand-street, Stonehouse, for the County Borough Council. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

AUGUST 31.—**Sheerness.**—HOUSES.—Erection of 20 parlour-type houses in blocks of two, three, and four, for the U.D.C. Mr. W. P. Puddicombe, Engineer, Council Offices, Sheerness. Deposit £2 2s.

AUGUST 31.—**Stafford.**—ADDITION AND ADAPTATION.—(*a*) Darlaston, Slater-street Council School, erection of new department for 336 infants, with assembly hall, staff rooms, cloakrooms, out offices, &c., also for extension of existing building; (*b*) Darlaston, Salisbury-street Council School, adaptation of existing buildings as an upper standard school, including the erection of four additional classrooms, science laboratory, assembly hall, staff rooms, &c., for the Staffordshire Education Committee. F. A. Hughes, Director of Education, County Education Offices, Stafford. Deposit £6 6s. (£3 3s. for each).

August 31.—**Whitby.**—Additions.—Completion of certain additions to the band pavilion, West Cliff, Whitby, for the U.D.C. L. M. Blanchard, surveyor to the Council, Council Offices, Whitby. Deposit £1 1s.

September 1.—**Athlone.**—Houses.—Twelve houses (semi-detached) and the construction of sewers and water mains in connection, for the U.D.C. P. J. O'Loughlin, Town Surveyor, The Courthouse. Deposit £2.

September 1.—**Athlone.**—Reconstruction of waterworks pump-house and erection of new filter house, for the U.D.C. P. J. O'Loughlin, Town Surveyor The Courthouse. Deposit £5.

September 1.—**London.**—Alteration and Extension.—To the Electricity sub-station at Evelyn-street, Hoxton, N.1, for the Metropolitan Borough Council of Shoreditch. T. L. Hustler, Borough Surveyor, Town Hall, Old-street, E.C.2. Deposit £2 2s.

September 1.—**Loughrea.**—Schools.—Erection of National Schools and additions to the Convent of Mercy, Loughrea, co. Galway. Morris & Kavanagh, 68, Harcourt-street, Dublin. Deposit £3 3s.

September 1.—**Shoreditch.**—Sub-station.—For the alteration and extension of electricity sub-station at Evelyn-street, for the B.C. Mr. T. L. Hustler, Borough Surveyor, Town Hall, Old-street, E.C.2. Deposit £2 2s.

September 2.—**East Ham.**—Houses.—For the erection of 26 double-tenement houses and 12 single-tenement houses on the central site, High-street South, East Ham, for the B.C. Borough Engineer, Town Hall, East Ham. Deposit £2.

✱September 2.—**Fulham.**—Additions.—For the provision of a new roof story over the existing building and the erection of a new wing (to provide a further 55 bedrooms) at the Nurses' Home, Fulham Palace-road, W.6, for the Fulham B.G. A. Saxon Snell & Phillips, 9, Bentinck-street, Manchester-square, W.1. Deposit £5.

September 2.—**Glendevon.**—House.—Erection of a sluice-keeper's house at Glendevon Reservoir, Perthshire, for the Fife C.C. H. F. Hodge, District Engineer, County Buildings, Dunfermline.

September 2.—**Keynsham.**—Houses.—Fourteen houses on the housing site at Whitchurch, in connection with which the construction of suitable means for the treatment of the drainage from the houses is required, for the R.D.C. H. W. Argile, Building Surveyor, 16, High-street, Keynsham, near Bristol.

✱September 2.—**Linthorpe, Middlesbrough.**—Telephone Exchange.—Erection of at Linthorpe, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

✱September 2.—**London.**—Houses.—Erection of 26 double-tenement houses and 12 single-tenement houses on the Central site, High-street South, East Ham, for the County Borough Council. Borough Engineer, Town Hall, East Ham, E.C. Deposit £2.

September 2.—**Sutton-in-Ashfield.**—Houses.—For the erection of 120 dwelling-houses, parlour and non-parlour types, to be erected in pairs and blocks of four, and the construction of new roads, approaches, and sewers. The scheme is divided into five sections. Messrs. Warner & Bocock, architects, Mansfield Road, Sutton-in-Ashfield. Deposit £3 3s.

September 3.—**Coventry.**—Generating Station.—Buildings, foundations and subways, and steam and water pipework, and cooling towers, &c., for the T.C. G. Tough, Engineer and Manager. Deposit £5 5s.

September 4.—**Conway.**—Houses.—Erection and completion of 76 houses on the housing site, The Morfa, Conway, for the Corporation. F. A. Delamotte, A.M.I.C.E., Borough Engineer, Municipal Buildings, Conway. Deposit £2 2s.

September 4.—**Yeovil.**—Houses.—For the erection of 12 houses on the Grass Royal housing site, for the T.C. Messrs. Petter & Warren, architects, Old Sarum, Yeovil. Deposit £2 2s.

September 6.—**Caerphilly.**—Extension.—Extension of the omnibus garage in Mill-road, for the U.D.C. T. H. Richards, surveyor, Council Offices, Caerphilly. Deposit £2 2s.

September 6.—**Enniskillen.**—House.—For building a residence. Mr. Charleton, County Surveyor's Office, Enniskillen. Deposit £2 2s.

✱September 6.—**Wombwell.**—Houses.—Erection of 82 type "A" houses on a site situate near King's-road, for the U.D.C. D. H. Roberts, L.R.I.B.A., architect, Park-street, Wombwell. Deposit £2.

September 7.—**Bangor (Ireland).**—Abattoir.—For the erection of an abattoir, for the U.D.C. Mr. J. Milliken, clerk, Town Hall, Bangor.

September 7.—**Kensington.**—Houses.—For the demolition of existing buildings and erection of 16 flats in Threshers-place, Notting Hill, for the B.C. Borough Engineer, Town Hall, Kensington, W.8. Deposit £2 2s.

✱September 8.—**Chelmsford.**—New School.—Erection of new elementary school at Nevendon, Burnt Mill-road, for the E.C. of the Essex C.C. County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s., to F. H. Owen, County Accountant, Duke-street, Chelmsford.

September 8.—**Nevendon.**—School.—Erection of Nevendon Burnt Mill-road new elementary school, for the Essex C.C. Mr. Jno. Stuart, F.R.I.B.A., County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s.

✱September 8.—**Tilbury.**—Enlargement.—Enlargement of Tilbury St. Chads' Elementary School, for the Essex Education Committee. Jno. Stuart, F.R.I.B.A., the County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s., to F. H. Owers, F.S.A.A., County Accountant, Duke-street, Chelmsford.

✱September 9.—**Hitchin.**—Sorting Office.—Erection of at Hitchin, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

September 10.—**Chailey.**—Houses.—Erection of 115 houses, for the R.D.C. Mr. H. J. Tillson, Clerk Union Offices, West-street, Lewes, Sussex.

✱September 10.—**Portishead, Bristol.**—Wireless Station.—Erection of, at Portishead, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

September 11.—**Durham.**—Conversion.—For builders and other works, also for heating and hot water supply required to be done in the conversion of Seaham Hall into a tuberculosis hospital, for the Durham C.C. Messrs. W. & T. R. Milburn, architects, 19, Fawcett-street, Sunderland. Deposit £2 2s.

September 11.—**Rochford.**—Houses.—Erection of 66 houses for the R.D.C. Mr. A. C. Madge, surveyor, Rayleigh, Essex. Deposit £1 1s.

✱September 13.—**London.**—Dwellings and Shops.—Erection of two blocks (including four shops in each block) at Brand-street area, Islington, for the L.C.C. Architect to the Council (Room No. 3), Westminster-bridge, S.E. Deposit £2 (to the cashier of the Council).

✱September 13.—**Whitehaven.**—Houses.—Erection and completion of 82 houses on the Arrowthwaite housing site, Scheme No. 3B, for the T.C. Borough Engineer and Surveyor, Town Hall, Whitehaven. Deposit £2 2s.

✱September 14.—**London.**—Hospital Buildings.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings; re-conditioning of existing ward block at the Willesden U.D.C. Small-pox Hospital, Kingsbury, Middlesex. F. Wilkinson, Engineer to the Council, Town Hall, Dyne-road, Kilburn, N.W.6.

✱September 14.—**Newcastle-on-Tyne.**—Telephone Exchange.—Erection of telephone exchange, Newcastle-on-Tyne, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

✱September 14.—**Rochester.**—Alterations.—Sundry alterations in formation of new kitchens and offices at St. Bartholomew's Hospital, under the superintendence of Messrs. Read & MacDonald, architects. Stoner & Sons, Quantity Surveyors, Boston House, 63–4, New Broad-street, London, E.C. Deposit £2 2s.

September 14.—**Upton.**—School.—Erection of school for 350 children at Upton, for the West Riding Education Committee. Education Department, County Hall, Wakefield.

September 14.—**Willesden.**—Additions.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings, and reconditioning of existing ward block at the Small Pox Hospital, Kingsbury, for the U.D.C. Mr. F. Wilkinson, engineer, Town Hall, Dyne-road, Kilburn, N.W.6.

September 17.—**Portsmouth.**—Convenience.—Erection of public convenience, Clarence Esplanade, for the T.C. Mr. Arthur W. Ward, City Engineer, Guildhall, Portsmouth. Deposit £2.

✱No Date.—**Beddington.**—Houses.—Erection of 50 at Beddington. S. & D. Co., 78, Old Broad-street, E.C.2.

No Date.—**Ulverston.**—Painting.—For painting outside of the following shops: Swarthmoor, Urswick, Pennybridge, Sunderland-terrace, &c. Secretary, Co-operative Society, Ltd., Ulverston.

✱No Date.—**Various Places.**—Works and Repairs.—Tenders will shortly be invited for the execution of ordinary works and repairs to the buildings at Cardiff, Dover, Hartlepool, Liverpool, Middlesbrough, Sunderland, Swansea, by the Commissioners of H.M. Office of Works. Contracts Branch, H.M. Office of Works, Storey's-gate, London, S.W. 1. Deposit 10s. 6d. in respect of each district.

No Date.—**Wakefield.**—Additions.—For the erection of the new out-patients' department at the Clayton Hospital, Wakefield. Mr. W. Harold Watson, Barstow-square, Wakefield. Deposit £2 2s.

No Date.—**Whitland.**—Renovation.—Of Henllan Congregational Chapel, near Whitland. J. Howard Morgan, architect, 24, King-street, Carmarthen.

No Date.—**Wrexham.**—Extension.—For extension of vegetable market. Mr. G. England, Borough Engineer, Wrexham. Deposit £2 2s.

## MATERIALS, etc.

August 23.—**Manchester.**—Trucks, &c.—For the supply of box carts, flag float, heavy and light hand-carts, and flag trucks, for the T.C. Paving, &c., Department, Town Hall, Manchester.

August 24.—**India.**—Shovels, &c.—(1) Two steam-driven locomotive travelling jib cranes; (2) 10,800 platelayers' and firemen's shovels. India Store Department, Belvedere-road, S.E. Charge 5s.

August 24.—**Manchester.**—Wire.—For the supply of electrolytic and cadmium copper trolley wire. Mr. Henry Mattinson, general manager, Corporation Tramways, 55, Piccadilly, Manchester.

August 28.—**Stockton-on-Tees.**—Materials.—For materials and stores for six months. Borough Engineer, Stockton-on-Tees.

August 31.—**Hammersmith.**—Materials.—Six months' supply of carpenters' and engineers' sundries, builders' materials, &c., to the B.G. Clerk, 206, Goldhawk-road, W.

September 3.—**Chatham.**—Water Carts.—Supply of two water carts (200 gallons capacity), to the T.C. R. L. Honey, F.S.I., Borough Engineer, Town Hall, Chatham.

September 4.—**Brentford.**—Materials.—Supply to the U.D.C. of shingle, lime and cement, oils and oilmen's sundries. Surveyor, Clifden House, Brentford.

September 4.—**Warrington.**—Work Benches.—For the supply of manual instruction work benches. Mr. J. Moore Murray, Secretary, Education Office, Sankey-street, Warrington.

September 6.—**Warrington.**—Conduits.—Supply of earthenware conduits for one year, for the T.C. F. V. L. Mathies, Borough Electrical Engineer, Warrington. Deposit £1 1s.

September 7.—**Bexley.**—Roller.—Supply of a single cylinder 8-ton steam road roller to the U.D.C. W. T. Howse, surveyor, Council Offices, Bexleyheath, Kent.

September 7.—**Hull.**—Stores.—Supply of stores for one year to the Humber Conservancy Board. A. W. Franklin, secretary, Conservancy-buildings, Hull.

September 10.—**London.**—Telegraph Poles.—Supply of Swedish, Norwegian, Finnish, or Baltic red fir and home-grown Scots fir telegraph poles, to be felled during the winter of 1926-7, and delivered during the following summer. The Controller, Post Office Stores Department, 17-19, Bedford-street, W.C.2

## ENGINEERING, IRON AND STEEL.

August 23.—**Belfast.**—Ironwork.—Construction of galvanised wrot ironwork at the Main Drainage outfall works, for the T.C. City Surveyor, City Hall, Belfast.

August 25.—**Burma.**—Bridgework.—Supply of bridgework (spans of 100 ft. and 60 ft.), to the Burma Railways Co. F. C. Franks, Secretary, 199, Gresham House, E.C.2. Charge £1.

August 25.—**Manchester.**—Lift.—For an electric goods lift at the Victoria-square dwellings, Oldham-road, for the T.C. City Architect, Housing Dept., Civic Buildings, 1, Mount-street, Manchester.

August 27.—**Northwich.**—Wiring.—For the re-wiring of the hospital at the Workhouse, London-road, for the B.G. Mr. J. C. Smith, Master, Workhouse, Northwich.

August 27.—**Richmond.**—Heating Installation. Installation of a hot-water (low pressure) heating system at the hospital at Mogden, for the Borough of Richmond (Surrey) and the Heston and Isleworth Urban District Joint Isolation Hospital Committee. H. Percy Adams, 9, Knightsbridge, Hyde Park Corner S.W. 1. Deposit £1 1s.

August 28.—**Romford.**—Sluice Gate, &c.—Fixing a new sluice gate and weir overflow in the lake at Raphael Park, &c., for the U.D.C. F. G. Beaumont, surveyor, 8A, South-street, Romford.

August 30.—**Edinburgh.**—Electric Lighting, &c. Electric light and power installations and roads at two hostels now in course of erection at Craigmillar Park, Edinburgh, for the Edinburgh Association for the Provision of Hostels for Women Students. F Wood, architect, 6A, George-street, Edinburgh.

August 30.—**Hackney.**—Lifts.—Installation of electric goods and service lifts at Hackney Institute, for the L.C.C. Chief engineer, Old County Hall, S.W. Deposit £1.

August 30.—**Manchester.**—Bridge.—For the widening, &c., of Oxford-road Bridge, over the River Medlock, for the T.C. City Engineer's Office, Town Hall, Manchester. Deposit £3 3s.

August 30.—**Saxmundham.**—Bridge.—For the building of a ferro-concrete skew bridge of 32 ft. clear span on ferro-concrete piles, and the demolition of a brick arch bridge at Rendham, three miles west of Saxmundham, on the Saxmundham-Framlingham-road, for the East Suffolk C.C. W. Jervis, county surveyor, County Hall, Ipswich.

August 31.—**Barnoldswick.**—Reservoir.—Construction of an impounding reservoir with a final capacity of 100 million gallons at Elslack Moor, near Skipton, Yorks, for the U.D.C. E. J. Silcock, Consulting Engineer, 25, Victoria-street, Westminster. Deposit £10.

September 1.—**Southampton.**—Boiler.—Installing a vertical smoke tube boiler at the slipper baths at Shirley, for the T.C. Borough Engineer, 33, French-street, Southampton. Deposit 10s. 6d.

September 2.—**Urmston.**—Heating.—For the heating of the Council Offices, Crofts Bank-road, for the U.D.C. Surveyor, Council Offices, Urmston. Deposit £1 1s.

September 6.—**London.**—Electric Wiring.—For wiring and fittings of electric lighting, power, telephones, &c., at Hackney Institute. Chief Engineer, Old County Hall, Spring-gardens, S.W. Deposit £1.

September 13.—**St. Marylebone.**—Runway.—Supply and fixing of an electric overhead runway for removing house refuse from storage pit to screening plant, together with steel-frame building. Borough Engineer, Town Hall, Marylebone-road, N.W.1.

September 15.—**Siam.**—Bridges.—Superstructures of steel railway bridges, for the Administration of the Royal State Railways of Siam, Bangkok. O. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £1 10s.

December 1.—**Denmark.**—Bridge.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

No Date.—**Haverfordwest.**—Pump Room.—Making a pump room in hard ground and two short drivages. The Hook Anthracite Colliery Co., Ltd., Haverfordwest.

## ROAD, SEWERAGE, AND WATER WORKS.

August 23.—**Aylsham.**—Drain.—Laying 230 yds. of 9 in. main drain in Station-road, Hackford, for the Aylsham R.D.C. H. W. T. Trotter, sanitary inspector, Aylsham.

August 23.—**Cockermouth.**—Widening.—Widening, and resurfacing the Borrowdale-road, and for carrying out certain improvements in connection therewith, and all works incidental thereto, from the Lodore Hotel to the Hamlet of Seatoller, for the R.D.C. Highway Surveyor.

August 23.—**Harrogate.**—Roads.—Carrying out of the private street improvement works in 19 streets and passages. C. B. Rivers, Borough Engineer, Municipal Offices, Harrogate.

August 23.—**Holme Cultram.**—Sewerage.—Laying making and construction of sewerage works in West Silloth, Greenrow, Blitterlees, and a portion of Skinburness, and a storm water drain in Silloth, all in the county of Cumberland, for the U.D.C. J. C. Boyd, engineer, 18, Bank-street, Carlisle. Deposit £3 3s.

AUGUST 23.—**Lyndhurst.**—Erection of an additional filter bed, &c., at the outfall works, for the New Forest R.D.C. B. Salter, sanitary inspector, Queen's-road, Lyndhurst.

AUGUST 23.—**North Bromsgrove.**—DRAINAGE.—Reconstruction, kerbing, and surface water drainage of Rose-hill, Rednal, for the U.D.C. Mr. G. W. Booth, Surveyor, Catshill, Bromsgrove.

AUGUST 23.—**Rugby.**—WATER MAINS.—For laying 1,270 lineal yards of 4-in. cast iron water mains in the parish of Hillmorton, for the R.D.C. Mr. J. E. Weeks, Surveyor, Temple-street, Rugby. Deposit £1 1s.

AUGUST 24.—**Birmingham.**—VARIOUS WORKS.—Completion of airing courts, farm drainage, tarred limestone paths, completion of lay-out to bungalows, tennis court, &c., at Rubery Hill and Holly Moor Mental Hospitals, for the T.C. H. H. Humphries, City Engineer, Council House, Birmingham. Deposit £2.

AUGUST 24.—**Brentford.**—SEWER.—Supply and laying of approximately 577 yds. lin. of 9 in. glazed stoneware pipe soil sewer at Lionel-road, for the U.D.C. Mr. W. J. W. Westlake, Engineer, Clifden House, Brentford.

AUGUST 24.—**Pontefract.**—MAKING-UP.—Street works in Fairfield-avenue and St. Bernard's-avenue, for the T.C. Borough Engineer. Deposit £2 2s.

AUGUST 24.—**Salcombe.**—ROADS.—For the making-up of (1) Beadon-road, (2) Sandhills-road, for the U.D.C. Mr. J. G. Howard, Surveyor, Council Hall, Salcombe. Deposit £2 2s.

AUGUST 24.—**Salford.**—ROADS.—For the paving and completing of two passages, for the T.C. City Engineer, Town Hall, Salford.

AUGUST 25.—**Goole.**—ROADS.—For the making-up of Charter-road, for the U.D.C. Mr. J. H. Castle, Surveyor, Council Offices, Goole. Deposit £3 3s.

AUGUST 25.—**Hendon.**—ROADS.—For re-paving the Stores Yard at Colindale Hospital, Colindale-avenue, Hendon, N.W., for the Metropolitan Asylums Board. Office of the Board, Victoria Embankmenti E.C.4. Deposit £1.

AUGUST 25.—**Loughborough.**—WATERWORKS.—Construction of pressure filter house, mains and apparatus, for the T.C. A. H. Walker, waterworks engineer, Town Hall, Loughborough. Deposit £3 3s.

AUGUST 26.—**Birmingham.**—ROADS.—For the reconstruction of part of Dudley-road from Heath-street to City-road, including reinforced concrete foundation to carriage way, granite kerb, granolithic slab paving, and other incidental works, for the T.C. Mr. Herbert H. Humphries, City Engineer, Council House, Birmingham. Deposit £2.

AUGUST 26.—**Camberwell.**—ROADS.—Construction of roadways, footways, drainage works &c., at the new cemetery, Honor Oak, for the B.C. Mr. William Bell, Borough Engineer, Town Hall, Peckham-road, Camberwell, S.E.5.

AUGUST 26.—**Southwell.**—SEWERAGE.—For first section of a scheme of sewerage and sewage disposal for the parishes of Ollerton and Boughton, for the R.D.C. Messrs. Sands & Walker, Milton Chambers, Nottingham. Deposit £3 3s.

AUGUST 26.—**Trowbridge.**—ROADS.—Re-aligning, strengthening and surfacing with asphalt a total length of 10 miles of main roads, for the Wilts C.C. J. George Powell, County Surveyor, County Offices, Trowbridge. Deposit £10 10s.

AUGUST 27.—**Devon.**—WIDENING.—Reconstruction and widening of approximately seven miles of the Exeter-Plymouth main road, for the C.C. A. Warren, County Surveyor, Avenue-road, Newton Abbot. Deposit £10 10s.

AUGUST 27.—**Ellesmere Port.**—ROADS.—Reconstruction of the footway between Carnegie-street and Meadow-lane, Ellesmere Port, for the U.D.C. Surveyor, Council Offices, Ellesmere Port.

✱AUGUST 27.—**Plymouth.**—ROADS.—Ballasting, &c., of about half-a-mile of roads and the construction of about 1¼ miles of sewers, &c., at the Higher Mount Gould housing estate, for the T.C. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

AUGUST 28.—**Okehampton.**—WATER MAINS.—Laying of 6 in., 3 in., and 1¼ in. iron water mains, at Chagford, for the R.D.C. Charles E. Ware & Son, surveyors, 18, Bedford-circus, Exeter.

AUGUST 28.—**Southampton.**—ROAD, &C.—Construction of a road and sewers on the housing site at Shirley Warren, for the T.C. Borough Engineer, 33-35, French-street, Southampton. Deposit £1 1s.

AUGUST 28.—**Swindon.**—SEWERS.—Sewers and other incidental works in Marlborough-road, Broome-lane, and in lands on the west side of Marlborough-lane, for the T.C. J. B. L. Thompson, Borough Surveyor, 34, Regent-circus.

AUGUST 30.—**Brentwood.**—SEWERS, &C.—Construction of about 300 yds. of 6 in. surface water drain-320 yds. of 6 in. and 9 in. soil sewer, 320 yds. of carriage-way, 640 yds. of kerbing and footpath, for the U.D.C. A. J. Meeson, Surveyor, Town Hall, Brentwood. Deposit £1 1s.

AUGUST 30.—**Greystones.**—WATER MAIN.—Extension of water main at Church-road, Greystones, for the Wicklow County Board of Public Health. R. M. Butler, engineer, 23, Kildare-street, Dublin.

AUGUST 30.—**Guildford.**—ROADS.—For the construction of short length of 9 in. stoneware soil sewer at Woodlands-road, for the T.C. Mr. J. W. Hipwood. Borough Surveyor, Tuns Gate. Guildford.

AUGUST 30.—**Hale.**—SEWERS.—For the laying of about 160 lineal yards 6 in. sewers, together with manholes and gullies, for the U.D.C. Mr. T. Blagburn, Surveyor, Council Offices, Ashley-road, Hale. Deposit £1 1s.

AUGUST 30.—**Horsforth.**—ROADS.—Carrying out of Troy improvement, for the U.D.C. J. E. Aldersley, surveyor, Council offices, Horsforth.

AUGUST 30.—**Llandudno.**—ROAD.—Construction of a new road through the Llandudno Golf Links at Maesdu. W. T. Ward and F. A. Delamotte, joint engineers for the scheme, Town Hall, Llandudno.

AUGUST 30.—**Reading.**—CULVERT.—Construction of a concrete tube culvert with manholes, in the Coley District, for the T.C. Borough Surveyor, Town Hall, Reading. Deposit £2 2s.

✱AUGUST 30.—**Widnes.**—ROADS AND SEWERS.—Road construction and drainage works on the Kingsway site for the Corporation. Architect and Housing Manager, Town Hall, Widnes. Deposit £2 2s.

AUGUST 31.—**Barnoldswick.**—RESERVOIR.—For first instalment of works necessary for the construction of an impounding reservoir, with a final capacity of 100 million gallons, at Elslack Moor, near Skipton, for the U.D.C. Mr. E. J. Silcock, 25, Victoria-street, Westminster. Deposit £10.

SEPTEMBER 1.—**Chrishall.**—ROADS.—Erection of retaining walls adjoining the main road from Audley End to Royston, in the Parish of Chrishall, for the Essex C.C. W. H. Morgan, County Surveyor, Old Court, Chelmsford.

SEPTEMBER 1.—**Ebbw Vale.**—ROADS.—Construction of footpaths, steps, fencing, and the erection of a footbridge over the Great Western Railway at Cwm, for the U.D.C. Mr. P. I. Davies, Council Offices, Ebbw Vale. Deposit £2.

✱SEPTEMBER 1.—**Hove.**—TAR PAVING WORKS.—Providing and laying about 39,754 yds. superficial tarred macadam in Kingsway, between Hove-street and Boundary-road, for the Borough Council. W. Jermyn Harrison, Town Clerk, Town Hall, Hove.

SEPTEMBER 1.—**Luton.**—SEWER.—Laying of about 1¼ miles of foul-water and storm-water sewers in Trapps-lane, for the T.C. J. W. Tomlinson, Borough Engineer, 18, Upper George-street, Luton.

SEPTEMBER 1.—**Upton-on-Severn.**—SEWER.—Extension of sewer at Squire's-walk, Kempsey, for the R.D.C. M. D. Price, surveyor, Upton-on-Severn.

SEPTEMBER 4.—**Conway.**—ROADS AND SEWERS.—Road construction work and works of sewage in connection with the housing scheme on the Morfa, Conway, for the Corporation. F. A. Delamotte, A.M.I.C.E., Borough Engineer, Conway. Deposit £2 2s.

SEPTEMBER 4.—**Ilfracombe.**—PAVILION AND TENNIS COURTS.—For (*a*) Construction of the pavilion, (*b*) making foundations for eight hard tennis courts, (*c*) laying eight hard courts, (*d*) laying of 18-hole putting green, for the U.D.C. F. B. Goodman, surveyor, Wilder-road, Ilfracombe.

SEPTEMBER 4.—**Penrith.**—WATER WORKS.—Construction of a filter house, settling tank, sludge lagoon, laying of water mains, and other incidental works, for the U.D.C. Mr. T. H. Longstaff, Water Engineer, Town Hall, Penrith. Deposit £2 2s.

SEPTEMBER 4.—**Stafford.**—ROADS.—For re-surfacing with tarred macadam two miles of Old Chester main road, from Little Aston cross roads to Shire Oak, for the Staffordshire C.C. J. Moncur, County Surveyor, Stafford.

SEPTEMBER 6.—**Leatherhead.**—SEWERAGE WORKS.—Construction of tanks, percolating and contact filters, and other works, at the Outfall, Randalls-road, for the U.D.C. Mr. William Fairley, Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £3 3s.

SEPTEMBER 11.—**Lytham St. Annes.**—ROADS.—Making-up of Caryl-road, Kensington-road, Mayfield-road, Rutland-road, Rowsley-road, and St. Leonard-road (footpaths only), for the T.C. Borough Surveyor, Town Hall, St. Annes.

SEPTEMBER 13.—**Skegness.**—WATERWORKS.—Construction of new well and heading at Welton, for the U.D.C. R. W. Jenkins, Council Offices, Skegness. Deposit £5.

## Auction Sales, Tenders, etc.

AUGUST 24.—**Leicester.**—Perry & Phillips, on the premises, Bradgate House, Leicester, the whole of the valuable interior and exterior fixtures and fittings in and about the mansion. The fabric of the mansion will be sold at a later date.—Auctioneers, 59, High-street, Bridgnorth.

✱AUGUST 24.—**London.**—Veryard & Yates (expiration of lease) will sell, without reserve, at 110A, Union-road, Clapham, useful building plant and materials. Auctioneers, 365, Norwood-road, S.E.27.

AUGUST 25.—**Hayes, Middlesex.**—C. E. Clark will sell, without reserve, on the building site, Sandow-road, Hayes, Middlesex, one minute from Hayes station (G.W.R.), clearance sale of huts, timber, and building material. Auctioneers, 117, Victoria-street, S.W.1.

✱AUGUST 26.—**London.**—E. Fyett will sell, without reserve, by order of the shippers, a diverted cargo of high grade wall papers, at the London Trade Sale Rooms, Ltd., 78 and 81, Fetter-lane, E.C.

AUGUST 31.—**Hersham.**—Goodman & Mann will sell, by direction of Messrs. B. Ingram & Co., upon retiring from business, on the premises, Ingram's-yard, Hersham, near Walton-on-Thames, builders' plant and materials. On the first day will also be offered, with vacant possession (unless previously sold), the extensive freehold business premises, also garden and orchard about 1¼ acres. Auctioneers, 68, Bridge-road, East Molesey, Hampton Court Station, and Portsmouth-road, Esher.

✱AUGUST 31.—**Willesden Junction.**—Veryard & Yates will sell, without reserve, owing to completion of Government contract, at Atlas Wharf, Victoria-road, Willesden Junction, contractor's plant and materials, including portable concrete-mixers. Auctioneers, 365, Norwood-road, S.E.27.

SEPTEMBER 3.—**London, E.C.**—Fuller, Horsey, Sons & Cassell will sell by order of Perry & Co., Ltd., in lots, at the Merchants' Hall, Baltic Exchange, St. Mary Axe, E.C., clearance sale of the remaining plant and stock owing to the expiration of lease. Auctioneers, 11, Billiter-square, E.C.3.

✱SEPTEMBER 9 AND 10.—**Kent.**—H. & R. L. Cobb amalgamated with Daniel Smith, Oakley & Garrard, will sell, on the pre ises, by order of the contractors, Kent, Isle of Grain Aerodrome, building materials and machinery; also generating plants, engines, &c. Auctioneers, 4 and 5, Charles-street, St. James's-square, S.W.1, and CatCedral Chambers, Rochester.

SEPTEMBER 14.—**Hammersmith.**—By order of the Hammersmith B.C. To be sold by tender as a whole or in two lots, freehold building estate of 3¼ acres, known as "Parkside" Ravenscourt Park, and No. 17, Ravenscourt Park, Hammersmith, extending back to the rear of the gardens of residences in Goldhawk-road, and having upon it two detached residences, cottage, and outbuilding. Vacant possession on completion. Town Clerk, Town Hall, Hammersmith, W.6.

✱SEPTEMBER 16.—**New Ferry.**—Paterson & Thomas will sell at the Law Association Rooms, 14, Cook-street, Liverpool (subject to conditions of sale and to not having been previously disposed of by private treaty), 20,795 sq. yds. of land in Stanley-road, New Ferry, together with the family residence erected on part thereof, known as 31, Stanley-road. Auctioneers, 16, Cook-street, Liverpool.

✱SEPTEMBER 17.—**Littlestone-on-Sea.**—Knight, Frank & Rutley will offer for sale, in numerous lots, in the Hall, Littlestone-on-Sea (kindly lent by Sir Robert Perks), freehold bulding plots, 30 private residences and cottages, and the Grand Hotel, on the Littlestone-on-Sea Estate; also adjoining accommodation holdings, arable and grazing land, comprising in all an area of about 700 acres. Auctioneers, 20, Hanover-square, W.1; and 41, Bank-street, Ashford, Kent.

✱SEPTEMBER 21.—**Battersea.**—J. T. Skelding & Co. will sell on the premises, Candahar Works, Candahar-road, Battersea, S.W., by order of Messrs. John Garlick (1910), Ltd., owing to part of the premises being let, antique and other surplus interior and exterior fitments and fittings and building materials. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

SEPTEMBER 22.—**London.**—Knight, Frank & Rutley will sell, in the Hanover-square Estate Sale Room (unless previously sold privately), Barnet, freehold residential and building estate situated on the Great North-road, known as Greenhill Park, comprising desirable residence, also three well-situated private residences—"Park Lodge," Station-road, "Woodlands," Gloucester-road West, "Gothic Cottage"—valuable building land extending to about 41¼ acres. With the exception of "Gothic Cottage," vacant possession will be given on completion of the purchase. Auctioneers, 20, Hanover square, W.1.

## Competitions.

(*See Competition News page* 276.)

## Public Appointments.

✱AUGUST 27.—**Leicester.**—CLERK OF WORKS.—Required to supervise work on the Council's housing estates by the City Council. J. S. Fyfe, A.R.I.B.A., Housing Architect, Wyggeston House, 18, Highcross-street, Leicester.

✱NO DATE.—**Gold Coast.**—FOREMAN OF WORKS (BUILDINGS).—Required by the Government of the Gold Coast for the Public Works Department, for a tour of 12 to 18 months' service, with possible extension. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/14684.

✱NO DATE.—**Sudan.**—FOREMEN OF WORKS.—Two foremen of works required by the Sudan Government, age 25 to 32 (single). Apply, by letter, Advisory Engineer Sudan Government, London Office, Wellington House, Buckingham-gate, S.W. 1, marking envelope "Foreman of Works."

## STAFF OUTING

THE annual outing of the staff of Messrs. Rice & Son, contractors, London and Margate, took place on Saturday, 10th ult., extending over the week-end, the party journeying to Boulogne. Dinner was provided on Saturday evening at the Hotel Christol and Bristol, at which Sir F. G. Rice, M.P., presided, supported by Major A. D. S. Rice and Mr. Eric Rice. Much amusement was caused by the many individual toasts given and accepted by the diners, followed by the toasts of the evening according to programme, all of which were duly honoured. After short and appropriate speeches from Sir Frederick Rice and various members, the proceedings terminated with "Auld Lang Syne," adjournment being made to places of interest in the town. On the following day (Sunday) arrangements were carried through by way of a motor tour through the surrounding country, visits including Etaples, Montreuil (where lunch was served), Paris Plage, and through the Forest of Hardelot *via* the historic Chateau, arriving back in Boulogne in time for the evening boat and train to Folkestone and Victoria.

### The Royal Arcade.

Mr. Reginald Phillips, of Conduit-street, who has purchased the freehold of the Royal Arcade, leading from Bond-street to Albemarle-street, has told a Press representative that he intends that the character of the arcade shall remain unchanged.

# PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ARMAGH.—The Proposals Committee of Armagh Co. Council has approved of an application for the erection of a new residence for Dr. Robinson, tuberculosis medical officer, at the County Sanatorium, at a cost of £2,050.

ARNOLD.—Plans of 18 houses have been passed by the U.D.C.

BELFAST.—Plans passed: Nine houses, Glencollyer-street, Mr. J. Scott, of W. Logan & Sons; 29 houses, Sydenham-drive, Mr. T. Penthill, for Greenhill and Craig; 8 villas, Earlswood-road, for Alexander & Reid; 6 houses off Old Park-road, for D. McCaughey; shop and warehouse, Royal-avenue, for P. S. Collier.

BILLERICAY.—Schemes, prepared by Messrs. Willcox & Raikes, for sewerage schemes for Hutton and Wick have been forwarded by the R.D.C. to the Ministry of Health.

BINGLEY.—It is reported that the U.D.C. has disposed of a large portion of land on the Ryshworth Hall Farm estate at Crossflats to a Keighley firm, which is to develop the land from an industrial point of view.

BLACKPOOL.—Plans passed by Buildings Committee:—J. Gregson & Son, 18 houses, Barclay-avenue; Sutcliffe & Stansfield, eight houses, Holyoak-avenue and Hughes-grove; H. Slatter, four houses, Kenilworth-gardens; J. G. Staunton, four houses, Westcliffe-drive; Absom Bros., four houses, Highfield-road; J. Carter, two houses and four shops, Red Bank-road, Bispham; Bryning & Done, three houses, Dale-avenue; Gardner & Smith, 30 houses, Woodstock-gardens; T. Brierley, four bungalows, Seattle-avenue; W. Spencer, six houses, North-drive.

CHELTENHAM.—At a special meeting the T.C. approved the expenditure of £10,000 upon laying out a new park near the centre of the town.

CLEVEDON.—Instructions have been given to the surveyor by the U.D.C. to prepare plans for a pavilion and shelter.

DONCASTER.—At the last meeting of the R.D.C. the engineers, Messrs. D. Balfour & Son, presented detailed plans and reported upon the proposed extension of the Bawtry sewage disposal works at an estimated cost of £3,300. It was agreed that the scheme be approved and that application be made to the Ministry of Health for their sanction to the borrowing of the sum required. —Sanction has been received for the erection of 58 houses at Rossington and 82 at Bawtry.

DUBLIN.—At a meeting of the South Dublin R.D.C. a scheme for the building of 60 cottages in the Council's district was submitted by Mr. T. B. Byrne, surveyor. The Government grant for the cottages is £23,000. Sixteen of the cottages are to be in Rathfarnham, 14 in Crumlin, 2 in Whitechurch, 19 in Chapelizod, and 9 in Clondalkin. The Council approved the scheme, subject to the sanction of the Local Government Department.

EXMOUTH.—Extensive alterations, to cost over £4,000, are contemplated by Mr. L. B. Thomas, proprietor of the New Picture House.

FAVERSHAM.—General approval has been given by the Ministry of Health to the drainage scheme for Teynham and Lynsted of the R.D.C.

FOLESHILL.—The R.D.C. has passed plans for 18 houses of J. W. Jones, Ltd., in Longford-road.

HARROGATE.—An extension of the Ripon-road housing scheme is projected. It is proposed to make application to the Minister of Health for sanction to borrow upwards of £27,000 for the erection of 46 "A" type of houses.

HAZEL GROVE AND BRAMHILL.—Plans for eight houses for Messrs. Garner & Co. in Dean-lane have been passed by the U.D.C.

HUNSTANTON.—An inquiry has been held by the Ministry of Health relative to the application of the U.D.C. for sanction to borrow £10,000 for the construction of a bathing-pool.

LEAMINGTON SPA.—Plans passed: K. England & Son, six houses, Cloister Crofts.

LONDON.—A large and important new programme of suburban railway electrification has been announced by the Southern Railway Company, involving the expenditure of £3,750,000. The work is to be put in hand at once, and is expected to be completed by the end of 1928. Every contract for equipment and material will, it is hoped, be placed with British firms.

LONDON (BRIXTON).—Steps are being taken by the St. John's Church Council to erect a commodious parish hall. The Ecclesiastical Commissioners have granted a freehold site in Sussex-road.

LONDON (ST. MARYLEBONE).—The Committee of the Middlesex Hospital announces that an anonymous donor has given £10,000 for building a new home for the nurses.

MACCLESFIELD.—Six houses at Ardlington, for J. Hayes.

MAIDENHEAD.—Eight villas in Keble-road for Mr. G. W. Smale.

MENAGH.—The Local Government Department has sanctioned the raising of a loan of £5,600 for improvement to Nenagh water supply.

MITCHAM.—It has been decided by the M.H. that the public inquiry into the application of Mitcham U.D.C. to borrow £44,500 to enlarge the Vestry Hall, to build a new fire station, and to lay out a new burial ground, shall be re-opened.

MOLESEY.—The U.D.C. is negotiating for more land for housing purposes.

MORLEY.—Plans submitted by the Morley Industrial Co-operative Society of the streets for the Stump Cross estate to be passed by the T.C.

NEWTON ABBOT.—Pottery works at Cockington for Mr. T. Lemon.

OAKHAM.—It has been decided by the U.D.C. to purchase land from the Earl of Lonsdale for a housing site.

PONTYPOOL.—There was no opposition at a Ministry of Health inquiry into an application by the Pontypool Council for sanction to borrow £4,000 for the provision of a public abattoir.

PWLLHELI.—It is proposed by the Carnarvonshire C.C. to build a school for 490 children.

RAMSGATE.—Printing works of *East Kent Times*, Ltd.

ROMFORD.—Plans passed by U.D.C.: T. Parker, 18 houses, Havering-road.

ST. ALBANS.—Intimation has been received by the R.D.C. that the C.C. will surrender 2 acres of land at Wilkins Green as a site for 20 houses.

SEAFORD.—The U.D.C. proposes to erect a further 17 houses on the north side of Alfriston-road, to consist of four blocks, including four pairs, to be built on the same plan as those in Chapel-road, at a cost of £9,570.

SHARDLOW.—It has been decided by the R.D.C. to proceed with the scheme for a reservoir at Melbourne.

SKEGNESS.—The Roads and Buildings Committee of the U.D.C. has approved the lay-out plan of the Highlands Estate, comprising 15 acres of land, laying just west of the old waterworks and fronting the highway between Skegness and Burgh. The lay-out is designed on garden city lines. Mr. H. J. Whiting, a local builder, is responsible for the venture, and already several plots have been disposed of.—Plans passed: J. Crawsham, eight houses, Ida-road.

SLEAFORD.—Mr. G. Ewart Rhodes has held an inquiry, on behalf of the Ministry of Health, in respect of an application made to borrow £720 for an extension to the Fen of the Anwick water supply.

SOUTHPORT.—Seventy-one plans of new buildings, alterations, &c., were submitted to the Highways Committee at its last sitting, of which all but eight were approved.

STRETFORD.—Plans passed: Formation of Warwick-road South, for the Trustees of the De Trafford Estates; 18 houses, Byron-road, for Messrs. G. H. Brown & Son.

SURBITON.—Estimates for a swimming bath are to be obtained by the U.D.C.

WAKEFIELD.—The General Purposes Committee of the T.C. has approved of plans for a school at Portobello, estimated to cost £38,000.—Plans passed: West Riding Electric Tramway Co., 6 houses in Belle Isle-crescent; E. A. Carbert, four houses, Milnthorpe-crescent.

WARWICK.—At a cost of £800 odd the Warwick B.G. have decided to instal electric lighting at their Institution.

WINDLESHAM.—An inquiry has been held into the application of the U.D.C. to borrow £29,383 in connection with the sewerage scheme and the costs of the recent arbitration.

WORTHING.—Mr. Macer, the owner of the Scamlle Farm estate, has submitted a sketch to the T.C. of the proposed development, and in connection therewith the Council has agreed to a widening of the Brighton-road.—Plans passed:—H. M. Potter, for A. M. Lyne, new street, to be called Chancton-close; H. M. Potter, for S. S. Baxter, new streets off Ham-road; A. M. Lyne, 26 houses; W. L. Norris, for G. J. Norris, six houses, Galsford-road.—It is proposed to acquire a piece of land 15 acres in extent, off Ham-road, from the Kemp Town Brewery, for housing purposes, and to erect 100 houses.

### FIRES.

DONCASTER.—Nearly £1,000 worth of damage was caused by a fire that broke out at the Picture House, High-street, Doncaster last week.

ST. ASAPH.—An extensive fire occurred at St. Asaph, near Rhyl, last week, when it is estimated over £40,000 of damage was done at a service garage, the property of Mr. Jones, of Eatonhurst, Rhyl. The building was burned to the ground.

STANSTED.—Lord Blyth's country seat, Blythwood, Essex, has been destroyed by fire.

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### Builders' Estates.

**Mr. W. Windebank, Sutton—£18,469.**

**Mr. T. Baxter, builder, of Lincoln, has left £5,152.**

Mr. Henry Butler, of Highfield-road, Lenton, Notts, retired builder, who died on May 21, left estate of the gross value of £14,982, with net personalty £8,051.

Mr. Frederick Goddard (85), of Gartree House, The Park, Nottingham, lately chairman of Birchells Furnaces, Ltd., of the Denby Iron & Coal Co., Ltd., and of the Nottingham Builders' Brick Co., Ltd., (net personalty, £31,595), £32,430.

* See also our List of Contracts, Competitions, etc.

# NEW COMPANIES

The particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 & 117, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

WM. BAGG & SONS, LTD. (214,642). Registered June 25. Builder and contractor, &c. Nominal capital, £3,000.

WHITEWALL QUARRIES CO., LTD. (214,641). Registered June 25. Quarry owners and masters, &c. Nominal capital, £1,600.

WM. SCOTT & SON, LTD. (214,643). Registered June 25. Builder, house decorator, &c. Nominal capital, £1,500.

W. H. SNOW, LTD. (214,597). Registered June 24. 59, Belmont-road, Liverpool. Builders, joiners, contractors, &c. Nominal capital, £1,000.

CONSOLIDATED BRICK & COAL CO., LTD. (214,625). Registered June 25. Kingsway House, Kingsway, W.C.2. Nominal capital, £6,000.

HATFIELD DEVELOPMENT CO., LTD. (214,630). Registered June 25. Builders, contractors, &c. Nominal capital, £500.

GARRETT & HAINES, LTD. (214,682). Registered June 28. 248, Pentonville-road, Kings-Cross, N.1. Builders, contractors, &c. Nominal capital, £200.

SUMNER, MAYOH & HALEY, LTD. (214,638). Registered June 25. 22, Buckingham-gate, S.W.1. To carry on the business of engineers, builders, contractors, &c. Nominal capital, £12,500 in 1s. shares.

J. STOKES & SONS, LTD. (214,609). Registered June 24. 64, High-street North, East Ham, E.6. Builders, contractors, and decorators. Nominal capital, £10,000.

WILLIAM H. SHAW (RIDDINGS), LTD. (214,693) Registered June 28. Builders', plumbers', and painters' merchants, &c. Nominal capital, £4,000.

W. HAMMOND, LTD. (214,596). Registered June 24. 72, York-road, S.W.11. Builders and contractors. Nominal capital, £1,000.

H. B. SILVER, LTD. (214,615). Registered June 24. 51, Greenhill-crescent, Harrow, Middlesex. To enter into contracts for erecting houses, &c. Nominal capital, £2,000.

JOHN HYDE & CO., LTD. (214,591). Registered June 24. Builders, contractors, carpenters, &c. Nominal capital, £500.

TAMWORTH PARK CONSTRUCTION CO., LTD. (214,580). Registered June 23. 54, Tamworth-road, Mitcham, Surrey. Builders, brickmakers, decorators, &c. Nominal capital, £2,000.

T. BOXALL & SON, LTD. (214,846). Registered July 5. Reading-road, Pangbourne, Berks. Builders and contractors, &c. Nominal capital, £5,000.

ASTOLAT COMPANY, LTD. (214,494). Registered July 3. Peasmarsh, Guildford, Surrey. Manufacturers of all kinds of fencing, &c. Nominal capital, £5,000.

KILNS CONSTRUCTION CO., LTD. (214,799). Registered July 3. Constructors of lime kilns, &c. Nominal capital, £2,000.

EASTER QUARRIES, LTD. (214,773). Registered July 2. 19, Victoria-buildings, Victoria-street, Manchester. Quarry owners, &c. Nominal capital £1,000.

BRITISH TIMBER HOUSES, LTD. (214,771). Registered July 2. Room 38, Salisbury House, London Wall, E.C. To import from any British Colony or from any foreign lands any houses or buildings made from wood or partly of wood, &c. Nominal capital, £100.

H. SOMERFORD & SON, LTD. (214,752). Registered July 1. Builders and contractors. Nominal capital, £4,000.

GREAT CULVERDEN, LTD. (214,751). Registered July 1. To acquire any lands and buildings in Kent or Sussex or elsewhere, and to lay out land for building purposes, &c. Nominal capital, £100.

A. JOHNSON & SON (HULL), LTD. (214,713). Registered June 30. 265, Hessle-road, Hull. Nominal capital, £1,000.

E. H. SMITH & CO., LTD. (214,718). Registered June 30. 59, Broad-road, Acock's Green, Birmingham. Builders' merchants, factors, contractors, &c. Nominal capital, £2,000.

# PRICES CURRENT OF MATERIALS

**[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]**

## BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

| | £ s. d. |
|---|---|
| Best Stocks | 4 5 6 |
| Second Hard Stocks | 3 19 6 |

Per 1,000. Delivered at London Goods Stations.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| Flettons, at King's Cross | 2 13 3 | Best Blue Pressed Staffs | 9 5 0 |
| Do. grooved for Plaster | 2 15 3 | Do. Bullnose | 9 15 0 |
| Do. Bullnose | 3 8 3 | Blue Wire Cuts | 7 5 0 |
| Best Stourbridge Fire Brick :— | | | |
| 2½ in. | 8 11 0 | 3 in. | 10 3 0 |
| GLAZED BRICKS— | | | |
| Best White Ivory, and Salt Glazed Stretchers | 21 10 0 | D'ble Str'tch'rs | 30 0 0 |
| Headers | 21 0 0 | D'ble Headers | 27 0 0 |
| Quoins, Bullnose and 4½ in. Flats | 28 0 0 | One Side and two ends | 31 0 0 |
| | | Two Sides and one End | 32 0 0 |
| | | Splays and Squints | 29 10 0 |

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

### BREEZE CONCRETE SLABS.
Delivered London.

| | s. d. | | s. d. |
|---|---|---|---|
| 2 in. per yd. super | 1 11 | 3 in. per yd. super | 2 9 |
| 2½ in. " " | 2 4 | 4 in. " " | 3 6 |

| | s. d. | |
|---|---|---|
| Thames Ballast | 10 6 per yd. | delivered 2 miles radius Paddington. |
| Pit Sand | 13 9 " " | |
| Thames Sand | 14 6 " " | |
| Best Washed Sand | 14 6 " " | |
| ½ in. Shingle for Ferro-Concrete | 12 9 " " | |
| ¼ in. " " | 14 0 " " | |
| ¼ in. Broken Brick | 11 6 " " | |
| Pan Breeze | 7 6 " " | |

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6

5/- alongside at Vauxhall in 80-ton lots.

| | |
|---|---|
| Ferrocrete per ton extra on above | 0 10 0 |
| Super Cement (Waterproof) | 4 8 0 |
| Roman Cement | 8 15 0 |
| Parian Cement | 5 15 0 |
| Keene's Cement, White | 5 15 0 |
| " " Pink | 5 10 0 |
| Plaster, Coarse, Pink | 3 0 0 |
| " " White | 3 12 6 |
| " Fine | 5 12 0 |
| Strapite, Coarse | 3 9 0 |
| " Finish | 3 17 0 |
| Grey Stone Lime | 2 16 9 |
| Chalk Lime | 2 16 9 |
| Best Ground Blue Lias Lime | 2 9 6 |
| Hair per cwt. | 2 2 6 |
| Granite Chippings | 1 12 0 |

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

## STONE.

| | s. d. |
|---|---|
| BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube | 2 9½ |
| Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube | 2 11½ |
| PORTLAND STONE— | |
| Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube | 4 4 |
| Do. do delivered on road wagons at above stations, per ft. cube | 4 5 |
| White basebed, 3d. per ft. cube extra. | |
| NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft. | |
| HOPTON-WOOD STONE— | |
| Delivered at any Goods Station, London. | s. d. |
| Random blocks from 10 ft. and over P. ft. cb. | 17 0 |
| Sawn two sides " | 27 0 |
| Sawn three or four sides " | 32 0 |
| YORK STONE, BLUE—*Robin Hood Quality.* | |
| Delivered at any Goods Station, London. | s. d. |
| 6 in. sawn two sides landings to sizes (under 30 ft. super.) Per ft. super | 5 6 |
| 6 in. rubbed two sides, ditto " | 6 0 |
| 3 in. sawn two sides slabs (random sizes) " | 2 3½ |
| 2 in. to 2½ in. sawn one side slabs (random sizes) " | 1 6½ |
| 1½ in. to 2 in. ditto, ditto " | 1 4 |
| HARD YORK— | |
| Delivered at any Goods Station, London. | |
| Scappled random blocks Per ft. cube | 6 3 |
| 6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super | 5 1½ |
| 6 in. rubbed two sides, ditto " | 6 1½ |
| 4 in. sawn two sides slabs (random sizes) " | 2 10 |
| 3 in. ditto ditto " | 2 1½ |
| 2 in. self-faced random flags Per yd. super | 9 0 |

## CAST STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d.; Moulded, 9s. 6d. Cills, 10s. 0d.

## WOOD.

### GOOD BUILDING DEALS.

| Inches. | per stan. | Inches. | per stan. |
|---|---|---|---|
| 4 × 11 | £28 0 | 3 × 6 | £21 0 |
| 4 × 9 | 25 0 | 3 × 11 | 25 0 |
| 4 × 8 | 24 0 | 2 × 11 | 25 0 |
| 4 × 7 | 23 0 | 3 × 9 | 24 0 |
| 3 × 8 | 21 0 | 2½ × 9 | 23 0 |
| 3 × 7 | 20 0 | 3 × 4½ | 23 0 |
| 2½ × 7 | 20 0 | 3 × 4 | 22 0 |

### PLANED BOARDS.

| | | | |
|---|---|---|---|
| 1 × 11 | £27 0 | 1 × 9 | £26 0 |

### PLAIN EDGE FLOORING.

| Inches. | per sq. | Inches. | per sq. |
|---|---|---|---|
| ¾ | 20/- | 1¼ | 31/- |
| ⅞ | 22/- | 1½ | 34/- |
| 1 | 25/- | | |

### TONGUED AND GROOVED FLOORING.

| Inches. | per sq. | Inches. | per sq. |
|---|---|---|---|
| 1 | 25/- | ¾ | 16/6 |
| 1¼ | 31/- | ⅞ | 19/- |
| 1½ | 34/- | 1 | 24/- |

### BATTENS.

| Inches. | s. d. |
|---|---|
| ¾ × 2 | 2 6 per 100 ft. |

### SAWN LATHS.

| | |
|---|---|
| Per bundle | 0 2 4 |

### 1" AND UP THICK.

| | £ s. d. | £ s. d. |
|---|---|---|
| Dry Austrian Wainscoat, per ft. cube | 0 16 0 to | 0 18 0 |
| Dry American and /or Japanese Figured Oak, ft. cube | 0 15 0 to | — |
| Dry American and/or Japanese Plain Oak, ft. cube | 0 11 0 to | 0 13 0 |
| Dry sq. edged Honduras Mahogany, ft. cube | 0 16 0 to | 0 18 0 |
| Dry Log cut Honduras Mahogany, ft. cube | 0 18 0 to | 1 1 0 |
| Dry Cuba Mahogany, ft. cube | 1 4 0 to | 1 10 0 |
| Dry Teak, ft. cube | 0 13 0 to | 0 15 0 |
| Dry American Whitewood, ft. cube | 0 11 0 to | 0 14 0 |
| Best Scotch glue, per cwt. | 4 10 0 to | — |
| Liquid Glue, per cwt. | 4 7 0 to | 5 10 0 |

## SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station.

Per 1,000 of 1,200.

| | £ s. d. | | £ s. d. |
|---|---|---|---|
| 24 by 12 | 37 12 6 | 18 by 10 | 21 2 6 |
| 22 by 12 | 34 0 0 | 18 by 9 | 18 12 6 |
| 22 by 11 | 31 5 0 | 16 by 10 | 17 12 6 |
| 20 by 12 | 29 15 0 | 16 by 8 | 13 15 0 |
| 20 by 10 | 25 12 6 | | |

## TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons.

| | Per 1,000 f.o.r. London. £ s. d. |
|---|---|
| Best machine-made tiles from Broseley or Staffordshire district | 5 12 6 |
| Ditto hand-made ditto | 5 17 6 |
| Ornamental ditto | 6 2 6 |
| Hip and valley tiles (per dozen) Hand-made | 0 9 6 |
| Hip and valley tiles (per dozen) Machine-made | 0 9 0 |

## METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

| | £ s. d. |
|---|---|
| R.S. Joists, cut and fitted | 12 10 0 |
| Plain Compound Girders | 14 10 0 |
| " Stanchions | 16 10 0 |
| In Roof Work | 19 10 0 |

### MILD STEEL ROUNDS.
To London Station, per ton.

| Diameter. | £ s. d. | Diameter. | £ s. d. |
|---|---|---|---|
| ¼ in. | 12 0 0 | ⅜ in. to ½ in. | 10 15 0 |
| ⅜ in. | 11 0 0 | ⅝ in. to 2½ in. | 10 10 0 |

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

| | Tubes. | Fittings. | Flanges. |
|---|---|---|---|
| Black Gas | 60 % | 50 % | 60 % |
| Galvanised Gas | 45 % | 40 % | 50 % |
| Blue Water | 55 % | 45 % | 55 % |
| Galvanised Water | 38½ % | 35 % | 45 % |
| Red Steam | 50 % | 40 % | 50 % |
| Galvanised Steam | 32½ % | 30 % | 40 % |

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

| Per yd. in 6 ft. lengths. | Gutters. | Angles and Nozzles. | Stop Ends. |
|---|---|---|---|
| 3 in. | 1/2½ | 11½d. | 3½d. |
| 3½ in. | 1/4 | 1/0½ | 3½d. |
| 4 in. | 1/5 | 1/2½ | 3½d. |
| 4½ in. | 1/6½ | 1/4 | 4½d. |
| 5 in. | 1/9½ | 1/5½ | 5½d. |
| O.G. GUTTERS. | | | |
| 3 in. | 1/7 | 1/3½ | 3½d. |
| 3½ in. | 1/7 | 1/3½ | 3½d. |
| 4 in. | 1/8½ | 1/4 | 3½d. |
| 4½ in. | 1/10½ | 1/6½ | 4½d. |
| 5 in. | 2/3 | 1/9½ | 5½d. |

RAIN-WATER PIPES, &c.

| Per yd. in 6 fts. | Pipe. | Bends, stock angles. | Branches, stock angles. |
|---|---|---|---|
| 2 in. plain | 1/9½ | 1/2½ | 1/8½ |
| 2½ in. " | 1/11½ | 1/4 | 2/0½ |
| 3 in. " | 2/4½ | 1/8 | 2/6 |
| 3½ in. " | 2/10 | 2/- | 2/10½ |
| 4 in. " | 3/3 | 2/4½ | 3/6 |

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

| | Pipe. | Bends, stock angles. | Branches, stock angles. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| 2 in. per yd. in 6 fts. plain | 2 11 | 2 3 | 2 9 |
| 2½ in. " | 3 5 | 2 6 | 3 5 |
| 3 in. " | 4 1 | 2 9 | 4 0½ |
| 3½ in. " | 4 5½ | 3 5 | 4 8½ |
| 4 in. " | 4 11½ | 3 9½ | 5 5½ |

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

| | Pipe. | Bends, stocks angles. | Branches, stock angles. |
|---|---|---|---|
| | s. d. | s. d. | s. d. |
| 3 in. per yd. in 9 ft. lengths | 4 3 | 5 9 | 7 8 |
| 4 in. " " | 6 3 | 6 11 | 9 6 |
| 5 in. " " | 7 10 | 12 0 | 16 3 |
| 6 in. " " | 9 6 | 15 0 | 20 9 |

Gasken for jointing, 28/6 per cwt.

| | Per ton in London. £ s. d. | £ s. d. |
|---|---|---|
| IRON— | | |
| Common Bars | 13 0 0 to | 14 10 0 |
| Staffordshire Crown Bars—good merchant quality | 14 5 0 .. | 15 5 0 |
| Staffordshire "Marked Bars | 16 5 0 .. | 17 5 0 |
| Mild Steel Bars | 10 0 0 .. | 11 0 0 |
| Steel Bars, Ferro-Concrete quality, basis price | 10 0 0 .. | 11 0 0 |
| Hoop iron, basis price | 12 0 0 .. | 13 0 0 |
| " Galvanised | 27 0 0 .. | 28 0 0 |
| Soft Steel Sheets, Black— | | |
| Ordinary sizes to 20 g. | 13 5 0 .. | 14 5 0 |
| " " " 24 g. | 14 5 0 .. | 15 5 0 |
| " " " 26 g. | 16 5 0 .. | 17 5 0 |
| Sheets Flat Best Soft Steel, C.R. & C.A. quality— | | |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g. | 15 10 0 .. | 16 10 0 |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g. | 16 10 0 .. | 17 10 0 |
| Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g. | 18 10 0 .. | 20 10 0 |
| No. 1 quality £4 per ton extra. | | |
| Flat and Galvanised Corrugated Sheets— | | |
| Ordinary sizes, 6 ft. to 9 ft. to 20 g. | 18 10 0 .. | 19 10 0 |
| Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g. | 19 0 0 .. | 20 0 0 |
| Ordinary sizes, 6 ft. to 9 ft. to 26 g. | 22 0 0 .. | 23 0 0 |
| Sheets Galvanised Flat, Best quality— | | |
| Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker | 22 0 0 .. | 23 0 0 |
| Best Soft Steel Sheets, 22 g. and 24 g. | 24 0 0 .. | 26 0 0 |
| Best Soft Steel Sheets, 26 g. | 25 10 0 .. | 26 10 0 |
| Cut Nails, 3 in. to 6 in. | 19 0 0 .. | 20 0 0 |
| (Under 3 in. usual trade extras.) | | |

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

## LEAD, &c,

| (Delivered in London.) | £ s. d. |
|---|---|
| LEAD—Sheet, English, 4 lb. and up | 45 0 0 |
| Pipe in coils | 46 10 0 |
| Soil Pipe | 48 10 0 |
| Compo Pipe | 49 10 0 |

NOTE—Country delivery, 30s. per ton extra : lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

| | | |
|---|---|---|
| Old lead, ex London area, at Mills per ton | 30 10 0 | — |
| Do., ex country, carriage forward per ton | 31 10 0 | — |

## COPPER.

| | s. d. |
|---|---|
| Seamless Copper tubes (basis) per lb. | 1 0½ |
| Strong sheet " | 1 0 |
| Thin " | 1 1 |
| Copper nails " | 2 3 |
| Copper wire " | 2 4 |

### PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 29/- | 45/- | 76/- | 153/- | 246/- | 510/- per doz. |

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 41/6 | 62*- | 92/- | 174/- | 300/- | 588/- per doz. |

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

| ½ in. | ¾ in. | 1 in. |
|---|---|---|
| 39/6 | 60/- | 116/6 per doz. |

CAPS AND SCREWS.

| 1¼ in. | 1½ in. | 2 in. | 3 in. | 3½ in. | 4 in. |
|---|---|---|---|---|---|
| 7/6 | 10/- | 14/- | 23/- | 30/- | 42/- per doz. |

DOUBLE NUT BOILER SCREWS.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. | 2 in. |
|---|---|---|---|---|---|
| 7/6 | 11/- | 17/- | 29/- | 36/- | 63/- per doz. |

BRASS SLEEVES.

| 1¼ in. | 2 in. | 3 in. | 3½ in. | 4 in. |
|---|---|---|---|---|
| 10/- | 12/- | 20/- | 24/- | 31/- per doz. |

NEW RIVER PATTERN CROYDON BALL VALVES, S.P.

| ½ in. | ¾ in. | 1 in. | 1¼ in. | 1½ in. |
|---|---|---|---|---|
| 35/- | 56/- | 98/- | 162/- | 228/- per doz. |

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

| | 1¼ in. | 1½ in. | 2 in. | 3 in. |
|---|---|---|---|---|
| 8 lbs. P. traps | 33/- | 41/- | 56/- | 101/- per doz. |
| 8 lbs. S. traps | 35/- | 45/- | 66/- | 126/- " |

TIN—English Ingots. 2/10 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

## PAINTS, &c.

| | | £ s. d. |
|---|---|---|
| Raw Linseed Oil, | in pipes per gallon | 0 3 1 |
| " " " | in barrels " | 0 3 3 |
| " " " | in drums " | 0 3 6 |
| Boiled " " | in barrels " | 0 3 3 |
| " " " | in drums " | 0 3 6 |
| Turpentine | in barrels " | 0 5 9 |
| " | in drums (10 gall.) " | 0 5 11 |
| Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.) | | 54 15 0 |
| GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots | per ton delivered | 73 5 0 |
| Red Lead, Dry (packages extra) | per ton | 45 10 0 |
| Best Linseed Oil Putty | per cwt. | 0 15 0 |
| Filocol | " | 0 15 6 |
| Size. XD Quality | firkin | 0 3 6 |

*Continued on next page.*

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

## PRICES CURRENT OF MATERIALS (*contd.*)

### GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

| | Per Ft. | | Per Ft. |
|---|---|---|---|
| 15 oz. fourths .. | 3½d. | 32 oz. fourths ..... | 7½d. |
| 15 „ thirds .... | 4½d. | 32 „ thirds ..... | 9½d. |
| 21 „ fourths .. | 4½d. | Obscured Sheet 15 oz. | 3½d. |
| 21 „ thirds .... | 5½d | „ 21 „ | 5½d. |
| 26 „ fourths .. | 5d. | Fluted 15oz. 6½d., 21oz. | 9½d. |
| 26 „ thirds .... | 7½d. | En'lled 15oz. 5½d., 21oz. | 7½d. |

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

| | Per Ft. |
|---|---|
| ⅛ Rolled plate ..... | 4½d. |
| ⅜ Rough rolled ..... | 5½d. |
| ½ Rough rolled ..... | 5½d. |
| Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White.. | 6½d. |
| Ditto, tinted ..... | 6d. |
| Rolled Sheet ..... | 6d. |
| White Rolled Cathedral ..... | 5½d. |
| Tinted do. ..... | 7½d. |

Cast Plate is same price as rough rolled.

### VARNISHES, &c.

| | | Per Gallon £ s. d. |
|---|---|---|
| Oak Varnish..... | Outside | 0 14 0 |
| Fine ditto..... | ditto | 0 16 0 |
| Fine Copal ..... | ditto | 0 18 0 |
| Pale Copal ..... | ditto | 1 0 0 |
| Pale Copal Carriage ..... | ditto | 1 4 0 |
| Best ditto..... | ditto | 1 12 0 |
| Floor Varnish ..... | Inside | 0 18 0 |
| Fine Pale Paper ..... | ditto | 0 18 0 |
| Fine Copal Cabinet ..... | ditto | 1 2 0 |
| Fine Copal Flatting ..... | ditto | 1 0 0 |
| Hard Drying Oak ..... | ditto | 0 18 0 |
| Fine Hard Drying Oak..... | ditto | 0 19 0 |
| Fine Copal Varnish ..... | ditto | 1 0 0 |
| Pale ditto ..... | ditto | 1 2 0 |
| Best ditto ..... | ditto | 1 12 0 |
| Best Japan Gold Size ..... | | 0 12 6 |
| Best Black Japan ..... | | 0 10 0 |
| Oak and Mahogany Stain (water)..... | | 0 12 0 |
| Brunswick Black..... | | 0 7 6 |
| Berlin Black ..... | | 0 14 6 |
| Knotting (patent) ..... | | 1 5 0 |
| French and Brush Polish ..... | | 0 17 0 |
| Liquid Dryers in Terebine ..... | | 0 9 0 |
| Quirass Black Enamel ..... | | 0 7 0 |

# TRADE NEWS

### Builders' Outing.

Messrs. Crabb & Son, of Brixton and Streatham, builders, decorators and electrical engineers, held their annual outing on Saturday, August 7, when about 100 of the staff and workmen assembled at their Upper Tulse Hill Works, when three charabancs conveyed the party to Windsor and from thence by boat to Marlow. Dinner was taken at the Chequers Hotel, with Mr. H. E. Crabb in the chair, supported by the general and branch managers. A most enjoyable day was spent.

### Midland Bank Statement of Accounts.

The statement of accounts of the Midland Bank, Ltd., made up on June 30, 1926, compares as follows with the position shown by the Bank on June 30, 1925:—Liabilities, June 30, 1925, £401,795,324; June 30, 1926, £408,138,849. Assets, 1925, £401,795,324; 1926, £408,138,849.

### Sand-Lime Bricks.

We have received from Messrs. H. Campbell & Co., of 20, Harp-lane, E.C.3, a leaflet dealing with the sand-lime bricks manufactured by the Briquetries et Tuileries Silico-Calcaires de Coxyde, Belgium. Strength is the most outstanding feature of this brick; it has a very great crushing resistance, we understand, and possesses the meritorious quality of becoming harder in proportion to the time it is exposed. It is uncracked by fire or rough handling; thus, as none have to be discarded owing to being chipped, these bricks are economical. It is exceptionally porous and so eliminates all dampness. Æsthetically, they are far more pleasant than the ordinary clay brick, whether white or coloured by mineral oxides incorporated in the ingredients. Regular and smooth in texture, they permit of easy working. An article in the "Chronicle" of the Conservatoire of Arts and Crafts of Paris writes of the bricks as suitable for all classes of building work; these bricks have been used extensively in Belgium, and are reported as being entirely satisfactory. Any size and shape can be made to meet the wishes and design of architects.

### Garden Ornament.

An attractive booklet on this subject has been issued by the Empire Stone Co., Ltd., containing some excellent reproductions of pencil drawings of a number of garden features, such as sundials of various types, bird baths, flower-pots, vases, pedestals and a garden seat. All these features are of an excellent architectural character, as may be judged by the example of a Greek vase illustrated (2 ft. 2 in. in diameter, 2 ft. 3 in. high),

A Vase in Empire Stone.

and they demonstrate very effectively the decorative possibilities of the material with which they are made. Empire Stone is a cast reconstructed stone, and the garden ornament is supplied in either Portland stone or pale buff colour, but any stone colour can be supplied to special order. Copies of the booklet may be obtained from the Empire Stone Co., Ltd., Garden Ornament Department, Thanet House, 231, Strand, W.C.2.

### Change of Address.

The Pollard Engineering Co., Ltd., manufacturers of the Pollard Safety Geyser, have recently removed to 50, Farringdon-street, E.C.4, the transfer to more commodious premises having become necessary owing to the expansion of their business.

# NEW BUILDINGS IN SCOTLAND

**Airdrie.**—It is intended to apply to Parliament by Provisional Order for inclusion within the burgh boundaries of *inter alia* (1) ground at Cairnhill acquired and proposed to be acquired for housing purposes; (2) Garturk Park acquired for sewage purification purposes; (3) Coatbridge and Airdrie Maternity Home and ground adjoining, including a portion of the Centenary Park presently outwith the burgh; (4) an area adjoining Colliertree-road on the north; and (5) Wester Moffat House and land acquired for hospital purposes.

**Falkirk.**—Sir James C. Calder has been granted warrant to alter property owned by him at Union-road, Camelon, to make three shops and four houses, at a cost of £1,600. An outlay of £2,500 is involved in a further scheme, warrant for which was granted, of the Falkirk Iron Co. (Ltd.), to erect steel roofs and a crane gantry at their iron-works at Grahamston, Falkirk.

**Glasgow.**—The Parliamentary Bills Committee of Glasgow Corporation recommend the promotion of a Provisional Order in December for authority to erect a high level bridge at Finnieston, and to construct a new tram road, as well as a number of other subjects connected with the administration of the city.

**Hamilton.**—The Dean of Guild Court has passed plans for the erection of a Palais de Danse, to be erected in Keith-street, Hamilton, per Thomas Ormiston, solicitor, 6 Brandon-street, Motherwell. Building operations will be started immediately.

**Paisley.**—The new cinema to be erected on a prominent site at the corner of Broomlands and Queen-street, is to be on modern and up-to-date lines, capable of accommodating 1,500 people. The company promoting the venture is a new one, and Mr. Campbell Cochran, solicitor, 55, West Regent-street, Glasgow, is secretary.

**Thornliebank.**—Offers for the 48 houses to be erected in Summerlea-road and Main-street, Thornliebank, by the District Committee of Upper Renfrewshire have been accepted. The total cost of the scheme is £17,366 13s. 1d. The average cost per house is as follows: Two-apartment house, type A, £336 8s. 5d.; three-apartment house, type A, £402 14s. 9d.; two-apartment house, type D, £326 19s. 3d.; and three-apartment house, type E, £409 16s. 8d.

# BUILDING TRADE WAGES IN SCOTLAND.*

The following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

| | Masons. | Bricklayers. | Carpenters, Joiners. | Plasterers. | Slaters. | Plumbers. | Painters. | Labourers—Masons', Bricklayers', Plasterers'. |
|---|---|---|---|---|---|---|---|---|
| Aberdeen ..... | 1/8 | 1/8½ | 1/8 | 1/8 | 1/8 | 1/8 | 1/7 | 10½d. to 1/1 |
| Airdrie ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/6½ | 1/3 |
| Alexandria..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/2½ to 1/3½ |
| Arbroath ..... | 1/7 | 1/7 | 1/7 | 1/7½ | 1/7 | 1/7 | 1/5½ | 1/1½ |
| Ayr ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/6½ | 1/3 |
| Bathgate ..... | 1/8 | 1/8 | 1/8 | 1/8½ | 1/8 | 1/8 | 1/6½ | 1/2 to 1/3 |
| Blairgowrie ..... | 1/7 | 1/7 | 1/7 | 1/7½ | 1/5 | 1/7 | 1/4 | 10d. to 1/- |
| Bo'ness ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3 |
| Coatbridge..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | — | 1/6½ | 1/3 to 1/3½ |
| Dumbarton ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Dumfries ..... | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Dundee ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3 |
| Dunfermline ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Edinburgh ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Falkirk ..... | 1/7½ | 1/7½ | 1/7 | 1/8 | 1/7 | 1/7 | 1/6½ | 1/2½ |
| Fort William..... | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/2 |
| Galashiels ..... | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/7 | 1/2½ |
| Glasgow ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Greenock ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/7 | 1/0½ to 1/3½ |
| Hamilton ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/6½ | 1/3½ |
| Hawick ..... | 1/7 | 1/7 | 1/7 | 1/7-1/7½ | 1/7 | 1/7 | 1/7 | 1/2½ |
| Helensburgh ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/7 | 1/3½ |
| Inverness ..... | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/- to 1/3 |
| Kilmarnock ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Kirkcaldy ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Kirkwall..... | 1/5 | 1/5 | 1/4 | 1/5 | 1/5 | 1/4 | 1/4 | 1/- |
| Lanark ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/6 | 1/0 to 1/3 |
| Leith ..... | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Motherwell..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/6½ | 1/3½ |
| Perth ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/6½ | 1/3 |
| Stirling ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/8 | 1/3½ |
| Stirlingshire (Eastern District) | 1/8-1/10 | 1/8 1/10 | 1/8 | 1/9 | 1/7 | 1/8 | 1/6½ | 1/3½ |
| Wishaw ..... | 1/8 | 1/8 | 1/8 | 1/9 | 1/8 | 1/8 | 1/7 | 1/3½ |

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 310.

# CURRENT PRICES FOR BUILDING WORK IN LONDON*

## EXCAVATOR.

| | | s. | d. |
|---|---|---|---|
| Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep | per yard cube | 11 | 0 |
| Add if in clay | " " | 1 | 0 |
| Add for every additional depth of 6 ft. | " " | 0 | 6 |
| Planking and strutting to trenches | per foot super | 0 | 5 |
| Do. to sides of excavation, including shoring | " " | 1 | 0 |

## CONCRETOR.

| | | s. | d. |
|---|---|---|---|
| Portland cement concrete in foundation 1 to 6 | per yard cube | 32 | 0 |
| Add if in underpinning in short lengths | " " | 7 | 0 |
| Add if in floors 6 in. thick | " " | 3 | 3 |
| Add if in beams | " " | 3 | 9 |
| Add if aggregate 1 : 2 : 4 | " " | 10 | 0 |
| Add for hoisting not exceeding 10 ft. beyond the first 10 ft. | " " | 2 | 6 |

## BRICKLAYER.

| | | £ | s. | d. |
|---|---|---|---|---|
| Reduced brickwork in lime mortar and Fletton bricks | per rod | 30 | 0 | 0 |
| Add if in stocks | " | 7 | 10 | 0 |
| Add if in Staffordshire blues | " | 22 | 0 | 0 |
| Add if in Portland cement and sand | " | 1 | 10 | 0 |

## FACINGS.

| | | s. | d. |
|---|---|---|---|
| Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks | per ft. super | 0 | 0 | 1½ |

## POINTING.

| | | s. | d. |
|---|---|---|---|
| Neat flat struck or weathered joint | " " | 0 | 0 | 3 |

## ARCHES.

| | | s. | d. |
|---|---|---|---|
| Extra only to the price of ordinary brickwork :— | | | |
| Fair external in half brick rings | " " | 0 | 0 | 10 |
| Axed in stocks | " " | 0 | 1 | 9 |
| Rubbed and gauged jointed in putty camber or segmental | " " | 0 | 6 | 0 |

## SUNDRIES.

| | | s. | d. |
|---|---|---|---|
| Damp course in double course of slates breaking joint and bedded in Portland cement | " " | 0 | 1 | 0 |
| Setting ordinary register grates and stoves | each | 1 | 0 | 0 |
| Setting kitchener, including forming flues, &c., with all necessary fire bricks | " | 4 | 15 | 0 |

## ASPHALTER.

| | | s. | d. |
|---|---|---|---|
| Half-inch horizontal damp course | per yard sup. | 4 | 3 |
| Three-quarter-inch vertical damp course | " " | 8 | 6 |
| ½ inch on flats in two thicknesses | " " | 6 | 3 |
| Angel fillet | per foot run | 0 | 3 |
| Skirting and fillet 6 in. high | " " | 1 | 2 |

## MASON.

| | | s. | d. |
|---|---|---|---|
| York stone templates fixed | per foot cube | 13 | 0 |
| York stone sills fixed | " " | 22 | 0 |
| Bath stone and all labour fixed | " " | 10 | 6 |
| Portland stone fixed | " " | 20 | 0 |

## SLATER.

| | | s. | d. |
|---|---|---|---|
| Welsh 16 in. × 8 in. 3 in. lap, including nails | per square | 72 | 9 |
| Do. 20 in. × 10 in. Do. Do. | " | 80 | 9 |
| Do. 24 in. × 12 in. Do. Do. | " | 90 | 0 |

## CARPENTER AND JOINER.

| | | s. | d. |
|---|---|---|---|
| Fir framed in plates | per foot cube | 5 | 0 |
| Do. joists | " " | 5 | 6 |
| Do. roofs, floors, and partitions | " " | 6 | 0 |
| Do. trusses | " " | 8 | 6 |

| | | ¾" | 1" | 1¼" | 2" |
|---|---|---|---|---|---|
| Deal rough close boarding | per sq. | 35/6 | 40/- | 45/- | 72/- |

| | | s. | d. |
|---|---|---|---|
| Flat centering for concrete floor, including struts or hangers | " | 50 | 0 |
| Do. to beams | per ft. sup. | 1 | 0 |
| Centres for arches | " | 1 | 6 |
| Gutter boards and bearers | " | 1 | 0 |

| FLOORING. | | ¾" | 1" | 1¼" | 1½" |
|---|---|---|---|---|---|
| Deal-edges shot | per sq. | | 44/6 | 53/- | 60/6 |
| Do. tongued and grooved | " | | 49/- | 57/6 | 65/- |
| Do. matchings | " | 45/- | 51/- | | |
| Moulded skirting, including backings and grounds | per ft. sup. | 1/6 | 1/9 | 2/0 | 2/6 |

## SASHES AND FRAMES.

| | | s. | d. |
|---|---|---|---|
| One-and-a-half moulded sashes or casements | per foot super. | 1 | 10 |
| Two Do. Do. Do. | " " | 2 | 1 |
| Add for fitting and fixing | " " | 0 | 3 |
| Deal-cased frames with 1 in. inner and outer linings, 1¼ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size | " " | 3 | 9 |

## DOORS.

| | | 1¼" | 1½" | 2" |
|---|---|---|---|---|
| Two-panel square framed | per ft. sup. | 2/1 | 2/4 | 2/6 |
| Four-panel Do. | " | 2/5 | 2/8 | 2/11 |
| Two-panel moulded both sides | " | 2/8 | 2/11 | 3/2 |
| Four-panel Do. Do. | " | 2/11 | 3/2 | 3/5 |

## CARPENTER AND JOINER—continued.

### FRAMES.

| | | s. | d. |
|---|---|---|---|
| Deal wrot moulded and rebated | per foot cube | 14 | 0 |

| | | 1" | 1¼" | 1½" |
|---|---|---|---|---|
| Plain deal jamb linings framed | per ft. sup. | 1/7 | 1/8 | 1/11 |
| Deal shelves and bearers | " | 1/4 | 1/6 | 1/9 |
| Add if cross-tongued | " | 2d. | 2d. | 2d. |

### STAIRCASES.

| | | 1" | 1¼" | 1½" | 2" | 2½" |
|---|---|---|---|---|---|---|
| Deal treads and risers in and including rough brackets | | 2/1 | 2/4 | 2/9 | — | — |
| Deal strings wrot on both sides and framed | | 1/8 | 2/- | 2/2 | 2/8 | — |

| | | s. | d. |
|---|---|---|---|
| Housings for steps and risers | each | 0 | 11 |
| Deal balusters, 1 in. × 1¼ in. | per ft. run | 0 | 9 |
| Mahogany handrail : average 3 in. × 3 in. | " " | 6 | 0 |
| Add if ramped | " " | 11 | 10 |
| Add if wreathed | " " | 23 | 9 |

### FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

| | | | |
|---|---|---|---|
| 6 in. barrel bolts | 8½d. | Rim locks | 2/- |
| Sash fasteners | 11½d. | Mortice locks | 4/6 |
| Casement fasteners | 1/5 | Patent spring hinges and letting into floor and making good | 19/- |
| Casement stays | 1/2 | | |
| Cupboard locks | 1/5 | | |

## FOUNDER AND SMITH.

| | | s. | d. |
|---|---|---|---|
| Rolled steel joists | per cwt. | 16 | 3 |
| Plain compound girders | " | 19 | 0 |
| Do. stanchions | " | 21 | 9 |
| In roof work | " | 27 | 6 |

## RAIN-WATER GOODS.

| | | 3" | 4" | 5" | 6" |
|---|---|---|---|---|---|
| Half-round plain rebated joints | ft. run | 1/6 | 1/9 | 2/- | 2/6 |
| Ogee Do. Do. | " | 1/9 | 2/- | 2/6 | 3/3 |
| Rain-water pipes with ears | " | 1/9 | 2/7 | — | — |
| Extra for shoes and bends | each | 4/4 | 5/11 | — | — |
| Do. stopped ends | " | 1/11 | 2/4½ | 3/7 | 4/- |
| Do. nozzles for inlets | " | 2/2 | 2/7 | 3/10 | 4/3 |

## PLUMBER.

| | | s. | d. |
|---|---|---|---|
| Milled lead and laying in flashings and gutters | per cwt. | 59 | 0 |
| Do. Do. in flats | " | 58 | 0 |
| Extra labour and solder in coated cesspools | each | 6 | 9 |
| Welf joint | per ft. run | 0 | 6 |
| Soldered seam | " " | 1 | 6 |
| Copper nailing | " " | 0 | 6 |

| | | ½" | ¾" | 1" | 1½" | 2" | 4" |
|---|---|---|---|---|---|---|---|
| Drawn lead waste | per ft. run | 1/2 | 1/9 | 2/- | 3/4 | 4/- | — |
| Do. service | " | 1/8 | 2/2 | 2/7 | 3/10 | — | — |
| Do. soil | " | — | — | — | — | — | 6/9 |
| Bends in lead pipe | each | — | — | — | — | 3/3 | 8/2 |
| Soldered stop ends | " | 1/2 | 1/8 | 2/1 | 2/10 | 3/6 | — |
| Red lead joints | " | 11d. | 1/- | 1/3 | 1/11 | 2/4 | 4/10 |
| Wiped soldered joints | " | 2/10 | 3/6 | 4/- | 4/11 | 6/6 | 9/9 |
| Lead traps and cleaning screws | " | — | — | — | 14/7 | 19/6 | — |
| Bib cocks and joints | " | 6/4 | 9/7 | 15/4 | 41/- | — | — |
| Stop cocks and joints | " | 15/4 | 17/2 | 25/8 | 64/- | — | — |

## PLASTERER.

| | | s. | d. |
|---|---|---|---|
| Render, float and set in lime and hair | per yard sup. | 2 | 4 |
| Do. Do. Sirapite | " " | 2 | 7 |
| Do. Do. Keen's | " " | 3 | 7 |
| Add sawn lathing | " " | 1 | 7 |
| Add metal lathing | " " | 2 | 6 |
| (Not including hangers or runners, &c., for suspended ceilings.) | | | |
| Portland cement screed | per yard sup. | 2 | 2 |
| Do. plain face | " " | 3 | 3 |
| Mouldings in plaster | per 1 girth | 0 | 1½ |
| One-and-a-half granolithic pavings | per yard sup. | 5 | 9 |

## GLAZIER.

| | | s. | d. |
|---|---|---|---|
| 21 oz. sheet plain | per foot sup. | 0 | 8½ |
| 26 oz. Do. | " " | 1 | 0 |
| Obscured sheet | " " | 1 | 1 |
| ¼ in. rolled plate | " " | 0 | 9 |
| ¼ in. rough rolled or cast plate | " " | 0 | 10½ |
| ¼ in. wired cast plate | " " | 1 | 4 |

## PAINTER.

| | | s. | d. |
|---|---|---|---|
| Preparing and distempering, 2 coats | per yard sup. | 0 | 9 |
| Knotting and priming | " " | 0 | 7 |
| Plain painting, 1 coat | " " | 0 | 9 |
| Do. 2 coats | " " | 1 | 2 |
| Do. 3 coats | " " | 1 | 9 |
| Do. 4 coats | " " | 2 | 4 |
| Graining | " " | 2 | 3 |
| Varnishing twice | " " | 1 | 9 |
| Sizing | " " | 0 | 3 |
| Flatting | " " | 0 | 7 |
| Enamel | " " | 1 | 1 |
| Wax polishing | per foot sup. | 0 | 6 |
| French polishing | " " | 1 | 2 |
| Preparing for and hanging paper | per piece, 2/- to 4/- | | |

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

# TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.

BELLERBY.—Painting and decorating Bellerby Church interior. Rev. C. A. White, Bellerby Vicarage, Leyburn, S.O.:—

| | |
|---|---|
| H. Lent & Son, Walthamstow, E.10 | £58 0 0 |
| *Ernest Metcalfe, Leyburn, S.O. | 22 5 6 |
| W. Dodworth, Carlton, Middleton, S.O. | 21 11 2 |

BENENDEN.—For erection of cottage on Manor House estate, Benenden, Kent, for Miss W. A. Willis. Mr. A. W. Burtenshaw, architect, Tenterden:—

| | |
|---|---|
| W. O. Woodgate, High Walden | £1,040 |
| J. B. Sharman, Ltd., Ashford | 998 |
| Weeks & Sons, Tenterden | 955 |
| *Lewis Edwards, Hawkhurst | 927 |

BOLTON.—For the erection of a new Sunday school at Bolton, for the Deane Congregational Church. Messrs. Ormrod, Pomeroy & Foy, F.R.I.B.A. and M.Sc., architects, 21, Acresfield, Bolton:—

*Messrs. James Cocker, Ltd., Walkden.. £8,000

BOSTON.—For the erection of 44 houses, for the T.C.:—

Per block of four—
*J. H. Hodgson, Boston ..... £1,544

BRECON.—For alterations and additions to the police station, for the Brecknockshire C.C. Mr. H. W. Strickland, County Architect, Walton Mount:—

| | |
|---|---|
| J. C. Evans, Talgarth | £626 0 0 |
| Lewis Meredith, Brecon | 625 0 0 |
| Williams Bros., Brecon | 585 10 0 |
| B. Jenkins, Brecon | 584 17 3 |
| Watkins & Bevan, Llangynidr | 574 5 0 |
| *T. D. Evans & Sons, Talgarth | 546 17 6 |

BUCKINGHAM.—For improvement to London-road, for the T.C.:—

*H. Pinkham & Son, Princes Risborough ..... £3,156 16 6

BUCKINGHAM.—For the erection of six houses at Gawcott, for the T.C.:—

*Denny Bros., Buckingham ..... £2,388

CARNARVON.—For the erection of 22 houses at Bethel-road and Maesincle-lane, for the T.C.:—

Per house—
*Owen Williams & Son ..... £475

CHEETHAM.—For the erection of provision warehouse on Park-street and Cross-street, Cheetham, for C. G. Boullen. Messrs. Broughton Atkinson & Cayle, architects, 37, Brown-street, Manchester:—

*C. H. Normanton & Son, Ltd., Cheetham.

CHESTERFIELD.—For the erection of 75 houses at Pilsley, for the R.D.C.:—

*J. A. Needham, Clay Cross—
For "A" type ..... £469
For "B" type ..... 485

CHORLTON-UPON-MEDLOCK.—For the addition to Rivoli dance hall, Gladstone-street, Chorlton-upon-Medlock. Mr. C. Hartley, architect, Stockport:—

*G. & W. Smith, Hyde-grove, Rusholme.

COCKERMOUTH.—Twenty-six dwelling-houses, parlour and non-parlour type, on Fitz-road site, drainage, fencing works, and construction of roads and sewers, for the U.D.C. Mr. Hy. Graham, engineer and surveyor:—

| | |
|---|---|
| J. Holt, Egremont—Inclusive | £14,249 15 8 |
| Wm. Marshall, Maryport—Houses | 12,952 2 0 |
| Roads and Sewers | 1,349 1 2 |
| S. Armstrong & Co., Cockermouth—Houses | 12,628 0 0 |
| Roads and Sewers | 1,205 3 5 |
| *Border Engineering Construction, Ltd., Whitehaven—Houses | 12,484 0 0 |
| Roads and Sewers | 1,123 4 3 |
| Morgan & Cleghorn, Carlisle—Roads and Sewers only | 1,111 11 6 |

CONGLETON.—For the erection of new cinema on the Black Boy inn and High-street site, for Congleton Capital Theatre, Ltd. Messrs. Cruickshank & Seward, architects, Crown-buildings, 18, Booth-street, Manchester:—

*A. J. & G. Worrall, Congleton.

DONCASTER.—For carrying out alterations at sewage disposal works at Armthorpe, for the R.D.C.:—

*Clements, Burton & Clements.. £2,152 0 3

DONCASTER.—For sewage disposal works at Norton, for the R.D.C.:—

*G. Lambert, Askern ..... £1,063 2 1

DONCASTER.—For street works, for the R.D.C.:—

*J. Dickinson & Sons ..... £443 19 10

DROGHEDA.—For the erection of 43 houses, for the T.C.:—

Per house—

| | |
|---|---|
| P. Ritchie, Belfast | £327 0 0 |
| S. Henley & Sons, Drogheda | 271 3 3 |
| *J. J. Gogarty, Drogheda | 271 0 0 |

DUBLIN.—For enclosing and concreting playground at Boyne Street, for the Dublin Commissioners:—

*J. Dowling & Co., Rathmines ..... £1,667

DUBLIN.—Reconstruction of the dome of the City Hall, for the C.B. City Architect, Exchange Buildings, Lord Edward-street:—

| | |
|---|---|
| W. & J. Martin, Ltd., Dublin | £5,614 13 10 |
| G. & T. Crampton, Ltd., Dublin | 5,490 0 0 |
| James Beckett, Ltd., Dublin | 5,094 0 0 |
| *S. H. Bolton & Sons, Dublin | 4,469 0 0 |

EAST LOTHIAN.—For steel bridge over the Tyne on the East Linton by-pass road, for the C.C. Mr. Peter Clarke, surveyor:—

Sir Wm. Arrol & Co., Ltd., Glasgow £19,546 7

EDEYRNION.—For 12 houses (6 parlour and 6 non-parlour) near the town of Corwen, for the R.D.C. Mr. N. D. Garner, architect, Corwen:—

| | |
|---|---|
| — Edwards, Corwen | £7,820 0 |
| Francis Roberts, Acrefair | 7,662 0 |
| Powell & Hughes, Acrefair | 7,567 16 |
| *S. Mitchell, Cefn | 7,219 2 |

(*Subject to M.H. approval.)

EDINBURGH.—Reinforced concrete water towers and work connected therewith, to be executed at the Portobello Baths, for the T.C. Mr. E. J. MacRae, A.R.I.B.A., City Architect:—

Reinforced concrete water tower—
*Stuart's Granolithic Co., Edinburgh ..... £1,081 16 0
Structural alterations for above—
*J. Smith & Son, Portobello .. 199 0 0
Alterations at baths—
*Mason and other building trades*—
*A. Morrison, Musselburgh 2,182 19 5
*Plumber work*—
*J. Maxton, Portobello .... 517 0 0
Public washhouse, Gt. Junction St., Leith—
*Mason*—
*J. Hardie & Son, Bo'ness .. £4,799 0 0
*Joiner*—
*J. Millar & Sons, Edinburgh 1,377 0 0
*Glazier*—
*G. Lindsay & Co., Edinburgh 577 0 0
*Slater*—
*W. McLean, Leith ..... 81 15 10
*Concrete work*—
*Scott & Davie, Leith .... 863 4 0
*Plumber*—
*Hutton Bros., Edinburgh 497 13 6
*Steel*—
*Redpath, Brown & Co., Edinburgh ..... 1,206 14 3
*Laundry work*—
*Aimers, McLean & Co., Galashiels ..... 8,470 0 0
Motor bus garage, Annandale-street—
*Heating installation*—
*Dilworth & Carr, Ltd., Preston ..... 1,354 0 0
City Chambers—
*Heating boiler*—
*James Combe & Son, Ltd., Glasgow ..... 214 0 0
Potting shed, Inverleith Park—
*Mason work*—
*John Hardie & Son, Bo'ness 233 7 9
*Joiner work*—
A. Morrison, Musselburgh 269 0 0
Gilson Lodge, Corstorphine—
*Joiner work*—
*A. Morrison, Musselburgh 244 0 0
*Plumber*—
*W. Nicol & Son, Ltd., Edinburgh ..... 173 5 9
*Plaster*—
*John Baird & Son, Edinburgh ..... 60 0 0
*Slater*—
*R. Dick & Son, Corstorphine 43 17 0
Portobello power station: extension of raft—
*J. Angus & Son ..... £57,212 0 0

ENNISKILLEN.—For completion of sewerage work at Derrachane, for the U.D.C.:—

*J. Donnelly & Son ..... £760


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EVESHAM.—For the erection of 18 houses, for the R.D.C.:—

| | |
|---|---|
| *Alcester Builders, Ltd. (6 houses) | £2,897 |
| *H. W. Crisp (12 houses) | 5,364 |

EXMOUTH.—For the erection of 24 houses on the Hamilton-Cranford site, for the U.D.C.:—

| | |
|---|---|
| *A. B. Pyne, 4 blocks of 2 houses | £3,640 |
| *A. B. Pyne, 1 block of 2 houses | 910 |
| *F. W. Davey, 2 blocks of 4 houses | 3,600 |
| *F. W. Davey, 1 block of 2 houses | 910 |
| *Ratcliffe & Perryman, 1 block of 4 houses | 1,710 |

FRIMLEY.—For the making-up of Southwell Park-road, for the U.D.C.:—

Franks, Harris Bros., Ltd., Guildford ..... £878 17 6

GLASGOW.—For the construction of a sewer in Aikenhead-road and Glebe-road, for the T.C.:—

*Alexander Stark & Sons ..... £6,121

GLASGOW.—For the widening of the railway bridges at Mount Vernon and Uddingston, in connection with the Tollcross-Uddingston road-widening scheme, for the London, Scottish & Midland Railway Co.:—

*Masonry, &c., work*—
*P. & W. Anderson (Glasgow), Ltd. ..... £10,571 13 9
*Steelwork*—
*Motherwell Bridge & Engineering Co., Ltd. ..... 4,552 3 9

GLASGOW.—For the construction of roads and sewers at M'Neil housing scheme, for the T.C.:—

*Alexander Stark & Sons ..... £2,281 9 8

GLASGOW.—For mason's work at Logan-street housing scheme, for the T.C.:—

M'Leod & Campbell ..... £4,608 9 6

(This recommendation is in place of the tender of W. R. T. M'Beth & Co., accepted previously.)

GLASGOW.—For joiner work at Bridgeton Hall, for the T.C.:—

*M. Braid & Sons ..... £4,255 8

(This recommendation is in place of the tender of Cumming & M'Donald, accepted previously.)

GLASGOW.—For erection of reinforced concrete wall at Dawsholm gasworks, for the T.C.:—

*Hunter & Clark ..... £4,867 18 8

GLASGOW.—For the erection of Shettleston and Tollcross child welfare centre, for the T.C.:—

*Excavator, &c., works*—
*W. Stewart & Co. ..... £3,543 1 7
*Joiner work*—
*George Brown ..... 1,301 14 4
*Plumber work*—
*Robert Renfrew & Sons, Ltd. ..... 576 13 6
*Electric light installation*—
*Haddow & Co., Ltd. ..... 146 5 7
*Glazier work*—
*George Henderson ..... 72 0 0
*Slater work*—
*David Murdoch ..... 307 16 7
*Plaster work*—
*Scottish Building Guild, Ltd. ..... 217 10 0
*Tile work*—
*Barclay, Mackay & Co. ..... 191 2 0
*Iron railings, &c.*—
*P. & R. Fleming & Co. ..... 276 12 0
*Heating installation*—
*G. N. Haden & Sons, Ltd. ... 319 16 7

GLASGOW.—For the erection of halls at (1) Yoker, and (2) Nitshill, for the T.C.:—

*Spiers, Ltd. ..... £552 & £350

GLASGOW.—For cleaning and repainting vertical retort house, &c., at Dawsholm gasworks:—

*M. P. Galloway, Ltd. ..... £288 8 8

GLASGOW.—For re-sheeting and repainting Nos. 1 and 2 retort houses at Dalmarnock gasworks, for the T.C.:—

*J. Robb & Sons ..... £1,029 17 7

GLASGOW.—For re-sheeting oxide shed roof at Tradeston gasworks, for the T.C.:—

*J. Robb & Sons ..... £369 13 2

GLASGOW.—For the asphalt paving of (1) Riverford-road, from Green-lane to Main-street, Pollokshaws; and (2) Bath-street, from West Campbell-street to Douglas-street, for the T.C.:—

*Limmer & Trinidad Lake Asphalte Co.—
8s. 6d. per sq. yd. and 5 years' free maintenance.

GLASGOW.—For construction of sewer at Broomfield-road, for the T.C.:—

*A. F. Reid & Co. ..... £2,922 7

HEMSWORTH.—Seventy-six non-parlour type houses, with the necessary roads, sewers, fences, and footpaths, at Kinsley, near Pontefract, for U.D.C. Mr. A. Wright, Clerk, Council Offices, Barnsley-road, Hemsworth, near Pontefract.

Potter & Sons, Barnsley ..... £36,780

HUNSTANTON.—For making-up Sandringham-road, for the U.D.C.:—

*F. W. Shanks ..... £4,041 3 8

KNUTSFORD.—For the erection of a new Roman Catholic church and presbytery in George-street, Knutsford, for the Rev. Father Ryan. Mr. G. B. Holt, architect, Chelford-road, Knutsford, Cheshire:—

*Elijah Murphy, Moston, Manchester.

LEAMINGTON SPA.—For the erection of 60 non-parlour and 6 parlour type houses on the Rushmore Farm estate, for the T.C. :—

*F. G. Bursill, Leamington .... £29,022 2 9

LEAMINGTON SPA.—For retiling the roof of Milverton infants' school, for the T.C. :—

*A. Saul & Son ..... £339

LEAMINGTON SPA.—For rebuilding greenhouse in Jephson-gardens, for the T.C. :—

*Messenger & Co., Ltd. ..... £141 15

LONDON, REGENT-STREET.—For rebuilding Nos. 106 to 112, Regent-street; 52, Glasshouse-street; 46, 47, 48, and 49, Warwick-street, W., for the Goldsmiths & Silversmiths Co. (superstructure only). Messrs. North, Robin & Wilsdon, chartered architects, 35 & 37, Maddox-street, W. Quantities by Mr. Henry A. Mackmin, F.S.I., 10, Vigo-street, W. :—

| | |
|---|---|
| Arthur Vigor, Ltd. | £97,739 |
| Sir Lindsay Parkinson & Co. | 90,460 |
| Holland & Hannen and Cubitts, Ltd. | 88,965 |
| Trollope & Colls, Ltd. | 88,839 |
| Holloway Bros. | 88,162 |
| Minter, Ltd. | 87,800 |
| Thomas & Edge | 84,892 |
| John Marsland & Sons | 83,977 |
| Dove Bros. | 83,825 |
| Melville Dundas & Whitson (Glasgow) | 82,885 |
| Higgs & Hill, Ltd. | 82,800 |
| F. & H. F. Higgs, Ltd. | 82,600 |
| C. F. Kearley, Ltd. | 82,230 |
| W. F. Blay, Ltd. | 81,700 |
| Nox, Ltd. | 80,937 |

(All of London, except where stated.)

LONDON.—For internal cleaning and painting works, new flooring and ceilings, provision of new stoves, the reconstruction of a sanitary annexe with new sanitary fittings, &c., at the Newington Institution, Westmoreland-road, S.E.; for Southwark B.G. Messrs. A. Saxon Snell & Phillips, FF.R.I.B.A., architects, 7, Bentinck-street, Manchester-square, W.1 :—

| | | | |
|---|---|---|---|
| G. E. Everitt & Sons, Ltd., Croydon | £6,421 | 0 | 0 |
| Prestige & Co., Grosvenor-road | 6,380 | 0 | 0 |
| Edward Proctor & Sons, Plumstead | 6,367 | 9 | 1 |
| J. & C. Bowyer, Ltd., Upper Norwood | 6,349 | 0 | 0 |
| M. Greenwood & Son, Harlesden | 5,802 | 8 | 7 |
| J. Scott Fenn, Woolwich | 5,747 | 0 | 0 |
| D. C. Bowyer, Belvedere | 5,490 | 17 | 5 |
| *W. Chappell, Elgin-avenue, W. | 5,481 | 2 | 11 |

LONDON.—For the erection of two blocks of dwellings on White Hart-street site, Kennington-lane, comprising 64 tenements, to be known as Calstock House and Fowey House.

*R. J. Rowley, Tottenham ..... £23,320
(Including electric lighting and gas installations).

MALLING.—For the erecton of six bungalows at Offham, for the R.D.C. :—

*W. H. Simmonds & Son ..... £2,250

MANCHESTER.—For the alterations to the "Cricketers' Rest," Ashton New-road, Beswick, for Messrs. Groves & Whitnall, Ltd., Salford, Manchester. Architect's Department at brewery offices :—

*Messrs. N. Brookes & Son, Patricroft, Manchester.

MANCHESTER.—For the reconstruction of a machine room, for Messrs. A. Pearson & Co., manufacturers, 10, Tib-street, Manchester. Mr. H. J. Hoyland, architect, 32, King-street West, Manchester :—

*Messrs. T. Campion & Son, Hyde-road, Manchester.

MANCHESTER.—For the erection of a private school on a site on Brideoak-street, Manchester. Mr. E. Dawson, F.S.I., A.M.S.A., architect and surveyor, 49, Deansgate, Manchester :—

*Messrs. T. Campion & Sons, Hyde-road, Manchester.

MARSDEN.—Forty houses on the Wood's-avenue housing site, for U.D.C. Messrs. A. J. Howcroft & Son, architects, 45, Priory-buildings, Union-street, Oldham.

*Builder*—Holroyd & Brook, Marsden—28 houses.
*Builder*—Bradbury Bros., Marsden—12 houses.
*Joiner*—Whitehead & Sons, Marsden.
*Painter*—J. & J. Bottomley, Marsden.
*Plumber*—Shaw & Sons, Slaithwaite.
*Plasterer*—Mr. Whitehead, Mossley.
*Slater*—Pickles Bros., Leeds.

MILNGAVIE.—Thirty-six flatted houses at Craigton-road, for the T.C. Mr. F. A. B. Preston, L.R.I.B.A., architect, 6, Buchanan-street.

| | | | |
|---|---|---|---|
| *Brick, &c.*— James Crawford, Hyndland, Glasgow | £5,454 | 15 | 8 |
| *Joiner, &c.*— D. McKellor, Maryhill, Glasgow | 4,100 | 7 | 6 |
| *Slater, &c.*— The Scottish Building Guild, Ltd., Glasgow | 1,341 | 6 | 3½ |
| *Plumber*— R. S. Renfrew & Son, Ltd., Glasgow | 2,296 | 11 | 3 |
| *Plaster*— The Scottish Building Guild, Ltd., Glasgow | 1,037 | 13 | 2½ |
| *Grates*— Watson, Gow & Co., Falkirk | 260 | 3 | 0 |
| *Glazier*— Jas. M. Rattison, Glasgow | 86 | 6 | 6 |
| *Painter*— A. Campbell & Co., Renfrew | 337 | 19 | 6 |
| *Timber Fencing*— A. & G. Paterson, Ltd., Glasgow | 195 | 10 | 1 |

All lowest tenders recommended to Scottish Board of Health for acceptance.

MUSSELBURGH.—Additions to the Campie school, for Midlothian E.C. Mr. William Scott, 9, Drumsheugh-gardens, Edinburgh. Quantities by Messrs. R. & A. K. Smith, F.F.S., 44, Queen-street, Edinburgh:

| | | | |
|---|---|---|---|
| *Mason work*— *R. Banks & Son, Musselburgh | £546 | 11 | 0 |
| *Joiner Work*— *Alex. Clapperton, Gorebridge | 499 | 18 | 3 |
| *Plumber Work*— *Jas. Henderson, Musselburgh | 67 | 0 | 0 |
| *Plaster and Cement Work*— *J. Murdoch, Musselburgh | 158 | 18 | 9 |
| *Slater Work*— *Wm. Brooks & Son, Musselburgh | 96 | 10 | 0 |
| *Painter Work*— *Arch. Telfer, Musselburgh | 55 | 6 | 0 |

PEMBROKE (IRELAND).—For the erection of public library, for the U.D.C. :—

| | | | |
|---|---|---|---|
| J. E. Moore | £7,537 | 7 | 6 |
| Pemberton | 7,472 | 0 | 0 |
| J. Beckett, Ltd. | 7,450 | 0 | 0 |
| W. J. Roberts | 7,255 | 0 | 0 |
| Stewart | 6,788 | 0 | 0 |
| McNally | 6,742 | 0 | 0 |
| R. & D. Bolton | 6,680 | 0 | 0 |
| †Crampton | 6,665 | 0 | 0 |
| H. & J. Martin | 6,659 | 0 | 0 |

PONTEFRACT.—Construction of an 18 in. diameter syphon, about 30 ft. in length, under the stream at Bubwith Bridge, for T.C. Mr. W. H. Newton, Borough Engineer and Surveyor.

*Barber & Heseltine, Castle Moat, Pontefract ..... £239 13 3

PORTSMOUTH.—For painting certain schools, for the E.C. Mr. A. J. Sharp, surveyor :—

| | | | |
|---|---|---|---|
| *H. Carter & Sons, Southsea— St. Luke's C.E. | £185 | 0 | 0 |
| Kent-street | 299 | 0 | 0 |
| Beneficial Society's | 135 | 0 | 0 |
| Portsea Free | 39 | 0 | 0 |
| *Humby & Sons, Landport— Drayton-road | 795 | 0 | 0 |
| Conway-street | 238 | 0 | 0 |
| Omega-street | 190 | 0 | 0 |
| Cottage-grove | 108 | 0 | 0 |
| *Mullens & Sons, Landport— Cosham | 39 | 10 | 0 |
| New-road | 60 | 0 | 0 |
| *T. L. Norman & Sons, Landport— Stamshaw | 366 | 10 | 0 |
| Lyndhurst-road | 94 | 16 | 0 |
| School Clinic | 33 | 10 | 0 |
| *Portsea Island Mutual Co-operative Society, Landport— Highland-road | 332 | 8 | 11 |
| *Tilbury & Son, Southsea— Swan-street | 184 | 6 | 0 |
| Circus | 155 | 10 | 0 |
| Fratton | 112 | 15 | 0 |

READING.—For additions to "Dellwood" Maternity Home, situate in Liebenrood-road: (1) Staff quarters, (2) isolation ward, and for alterations to existing buildings, for the C.B. Borough Surveyor :—

*Sheppard, Ryder & Taylor, Caversham, Reading ..... £3,462 0 9

READING.—For additions to motor omnibus garage (steel-framed building, terra-cotta block filling, inspection pits, &c.) at tramway power station, Mill-lane, for the C.B. Borough Surveyor :—

*Collier & Catley, Ltd., Reading ..... £1,354


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RICKMANSWORTH.—Pulling down part of old brewery and erecting picture house, for Rickmansworth Picturehouse, Ltd. Mr. Howard Freeborn (of Messrs. Morlands), architect, Council Chambers, Rickmansworth; Messrs. Hood Bros., 8, Union-court, Old Broad-street, E.C., quantity surveyors :—

| | | | |
|---|---|---|---|
| H. J. Wright & Son, Chesham | £10,788 | 0 | 0 |
| J. Peattie, London | 10,545 | 5 | 9 |
| Y. J. Lovell & Sons, Gerrards Cross | 10,263 | 0 | 0 |
| F. R. Bartlett, Ltd., Yeovil | 10,190 | 0 | 0 |
| G. E. Everitt & Sons, Croydon | 10,170 | 0 | 0 |
| Kirk & Kirk, Ltd., Putney | 10,100 | 0 | 0 |
| A. W. Limpus, Ltd., Kingston | 9,736 | 0 | 0 |
| G. & J. Waterman, Watford | 9,372 | 0 | 0 |
| Universal Housing Co., Rickmansworth | 9,330 | 0 | 0 |
| *Kempster & Williams, Watford | 9,215 | 17 | 4 |

Architect's estimate, £8,880

RUSHOLME.—For the erection of lodge to "Ashburne Hall," Wilmslow-road, and Old Hall-lane, Rusholme, Messrs. T. Worthington & Sons, architects, 178, Oxford-road, Ardwick :—

*T. F. Moore, Chadwick-road, Eccles.

RUSHOLME.—For the conversion of houses, "Oak Bank," into club, Wilmslow-road and Oak-drive, Rusholme. Mr. R. Chorlton, architect, Oxford-road, Manchester :—

*J. H. Bardsley, 17, St. Anne's-square, Manchester.
*Plumbing*—J. McCrea, Boundary-street, Manchester.
*Steelwork*—C. C. Dunkerley & Co., Ltd., Manchester.

SALFORD.—Extension of heating and hot-water services at administrative offices, Eccles New-road, for the B.G. Mr. L. Knowles, consulting engineer, 22, Bridge-street, Manchester :—

Saunders & Taylor, Ltd., Manchester .. £97 10

SHEFFIELD.—Transformer substation in Herries-road, for the T.C. Mr. S. R. Fedden, General Manager and Engineer, Commercial-street.

*Thos. Roper & Sons, Ltd., Bruce Works, Mowbray-street, Sheffield ..... £299

SHEFFIELD.—For the erection of a new hotel in Bevercotes-road, Frith Park, for Messrs. Tennant Bros., Sheffield. Mr. Wynyard Dixon, architect, St. James'-row, Sheffield :—

*James Bertram, Wadsley-bridge, Sheffield.

SMALLBURGH.—For cottages at Bacton (two pairs), Catfield (two pairs), Edingthorpe (one pair), Honing (one pair), Horning (one pair), Ludham (one pair), Smallburgh (two pairs), and Worstead (one pair), for the R.D.C. Mr. A. Peploe, Clerk, North Walsham :—

| | Per pair. |
|---|---|
| *Tooley & Young, Stalham (two pairs) | £790 0 |
| *Saml. Smith, Wroxham (two pairs) | 769 0 |
| *Dale, Riches & Clarke, Ludham (two pairs) | 767 0 |
| *James Baker, Catfield (two pairs) | 762 9 |
| *Yoxley Bros., Smallburgh (two pairs) | 745 0 |

SOUTH MIMMS.—For the erection of 18 houses in Mutton-lane, for the R.D.C. :—

*W. Martin ..... £9,384 12

SOUTH SHIELDS.—For six shops, with houses over, Cleadon Park estate, for the C.B. Mr. S. G. Stanton, A.M.Inst.C.E., Borough Engineer :—

*Alf. Ridley, South Shields ..... £4,342

STOCKPORT.—Public urinal, L.M.S. railway bridge, Wellington-road North, and reconstruction of public urinals, Unity Inn, Wellington-street, and Egerton-road South, Heaton Chapel, for the T.C. Mr. H. Hamer, Borough Surveyor :—

Gladden & Davies, Stockport ..... £950

STOURPORT.—For the erection of 22 houses, for the U.D.C. :—

*E. Oakley & Son, 9 pairs of non-parlour houses ..... £7,656
*T. Vale & Sons, 2 pairs parlour type houses ..... 2,276

TENBURY.—For the erection of eight houses and four bungalows, for the R.D.C. :—

*Bowdler, Ludlow ..... £6,902

THORNABY-ON-TEES.—For the erection of 110 houses, for the T.C. :—

*S. Coates, Ltd., Middlesbrough £40,729 6 8

TRURO.—For the erection of 30 houses, for the T.C. :—

*J. Williams & Son, St. Austell ..... £14,970

WAKEFIELD.—For paving and re-surfacing the girls' and infants' playgrounds, at Sandal council school, for the T.C. :—

*Wilson Bros. ..... £345 18 8

WAKEFIELD.—For electric wiring of houses, for the T.C. :—

*White & Co., 146 at Batley-road ..... £785
*H. Smith, 450 at Snapethorpe ..... 2,625
*H. Smith, 50 at Snapethorpe ..... 485

WAKEFIELD.—For construction of tunnel, 800 yds. in length, with inlet and outlet basins, at Barkisland, near Sowerby Bridge, for the Waterworks Committee. Mr. C. C. Smith, Waterworks Engineer, Town Hall :—

*H. Arnold & Son, Ltd., Leeds .. £26,814 15 4

WALSALL.—For the erection of eight non-parlour type houses in Pelsall, for the R.D.C. :—

*S. C. Robson ..... £3,520

WAYLAND.—For the erection of eight houses, for the R.D.C. :—

*H. Smith, Attleborough, 4 houses .... £1,725
*S. Tennant & Sons, 4 houses ..... 1,665

WALLINGFORD, BERKS.—Erection of 44 houses at Didcot, for Wallingford R.D.C. Mr. F. H. Floyd, Council's Architect, Market-place, Newbury, Berks :—

| | |
|---|---|
| *Hoskings Bros., Newbury— | |
| Houses | £23,676 |
| Roads and Sewers | 1,650 |
| Drainage, paths, and fencing | 987 |
| Total | £26,313 |
| Blake Bros., Didcot— | |
| Houses | £23,723 |
| Roads and sewers | 2,142 |
| Drainage, paths, and fencing | 1,015 |
| Total | 26,880 |
| Cooke Bros., Newbury— | |
| Houses | £24,100 |
| Roads and sewers | 1,845 |
| Drainage, paths, and fencing | 1,100 |
| Total | £27,045 |
| Boshers (Cholsey), Ltd., Cholsey— | |
| Houses | £24,633 |
| Roads and sewers | 2,044 |
| Drainage, paths, and fencing | 946 |
| Total | £27,623 |
| J. Smallbone & Sons, Streatley-on-Thames— | |
| Houses | £25,523 |
| Roads and sewers | 1,780 |
| Drainage, paths, and fencing | 1,062 |
| Total | £28,365 |
| Brasher & Sons, Wallingford— | |
| Houses | £26,161 |
| Roads and sewers | 1,869 |
| Drainage, paths, and fencing | 1,115 |
| Total | £29,145 |
| J. E. Billings & Co., Ltd., Oxford— | |
| Houses | £24,860 |
| Roads and sewers | 3,030 |
| Drainage, paths, and fencing | 1,340 |
| Total | £29,230 |

WEST RIDING.—Renovations, Hartshead Council (internal and external), West Vale Council (internal and external), Stainland Bowling Green Council (internal), Heckmondwike Battye-street Council (internal), Southowram Within-Fields Council (internal and external) schools, for the West Riding E.C. Mr. P. H. Swire, Education Office, Huddersfield-road, Elland :—

| | | | |
|---|---|---|---|
| Southowram Within-Fields Council school— | | | |
| *A. Townsend & Sons, Halifax | £118 | 0 | |
| West Vale Council— | | | |
| *Frank Crossley, Halifax | 162 | 14 | |
| Stainland Bowling Green Council— | | | |
| *A. Townsend & Sons, Halifax | 71 | 0 | |
| Heckmondwike Battye-street Council— | | | |
| *F. Akers & Sons, Cleckheaton | 159 | 0 | |
| Hartshead Council— | | | |
| *Heckmondwike Co-operative Society, Heckmondwike | 69 | 10 | |

WORSBOROUGH.—For (1) Construction of streets, (2) construction of drains and sewers, and (3) construction of 40 houses, each with paths and fences, on the Bank-end site, for the U.D.C. Mr. T. Shield, surveyor :—

| | | | |
|---|---|---|---|
| Potter & Sons, Barnsley | £20,000 | 0 | 0 |
| Walter Dunk & Sons, Barnsley | 19,106 | 9 | 4 |
| Marshall & Beaumont, Worsboro' Dale | 19,000 | 0 | 0 |
| *Rawson Porter, Worsboro' Dale | 18,985 | 0 | 0 |
| Edward Oakland & Co., Wombwell | 18,950 | 0 | 0 |

WORTHING.—For construction of reservoir for Patching and Clapham, for the T.C. :—

| | | | |
|---|---|---|---|
| *Playfair, Toole, Ltd. | £859 | 11 | 9 |

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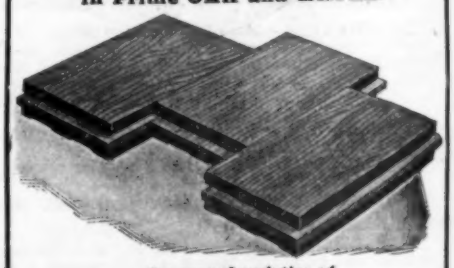

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